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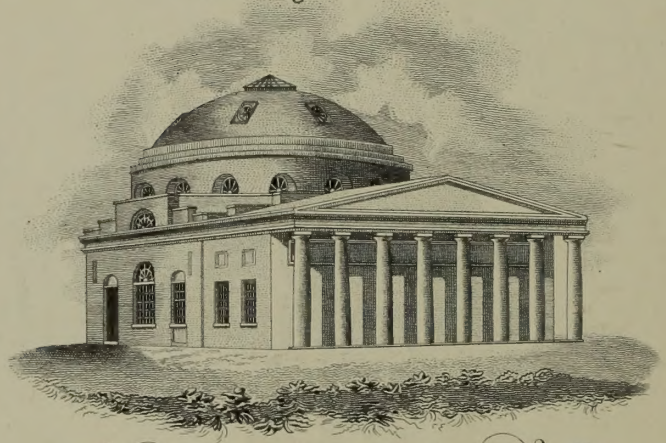

University of Maryland

University of Maryland Theses

Early Doctor of Medicine and Doctor of Physic Dissertations with Corrected Tables of Contents

These manuscripts described as either an Inaugural Dissertation or an Inaugural Essay were presented to the University of Maryland for the Degree of Doctor of Medicine and/or Doctor of Physic during the years 1813-1887. The individual dissertations were bound together during the 1940's. The original tables of contents for the bound volumes contained multiple errors in authors' names, titles, and/or years. To address these errors, an additional "Corrected Table of Contents" has been inserted at the beginning of each volume.

The project team who investigated and corrected the tables of contents were Richard J. Behles, Historical Librarian/Preservation Officer; María Milagros Pinkas, Metadata Management Librarian; Angela Cochrane and Carol Harling-Henry, Resources Division; Sarah Hovde, Abra Schnur and Megan Wolff, Services Division.

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THESES

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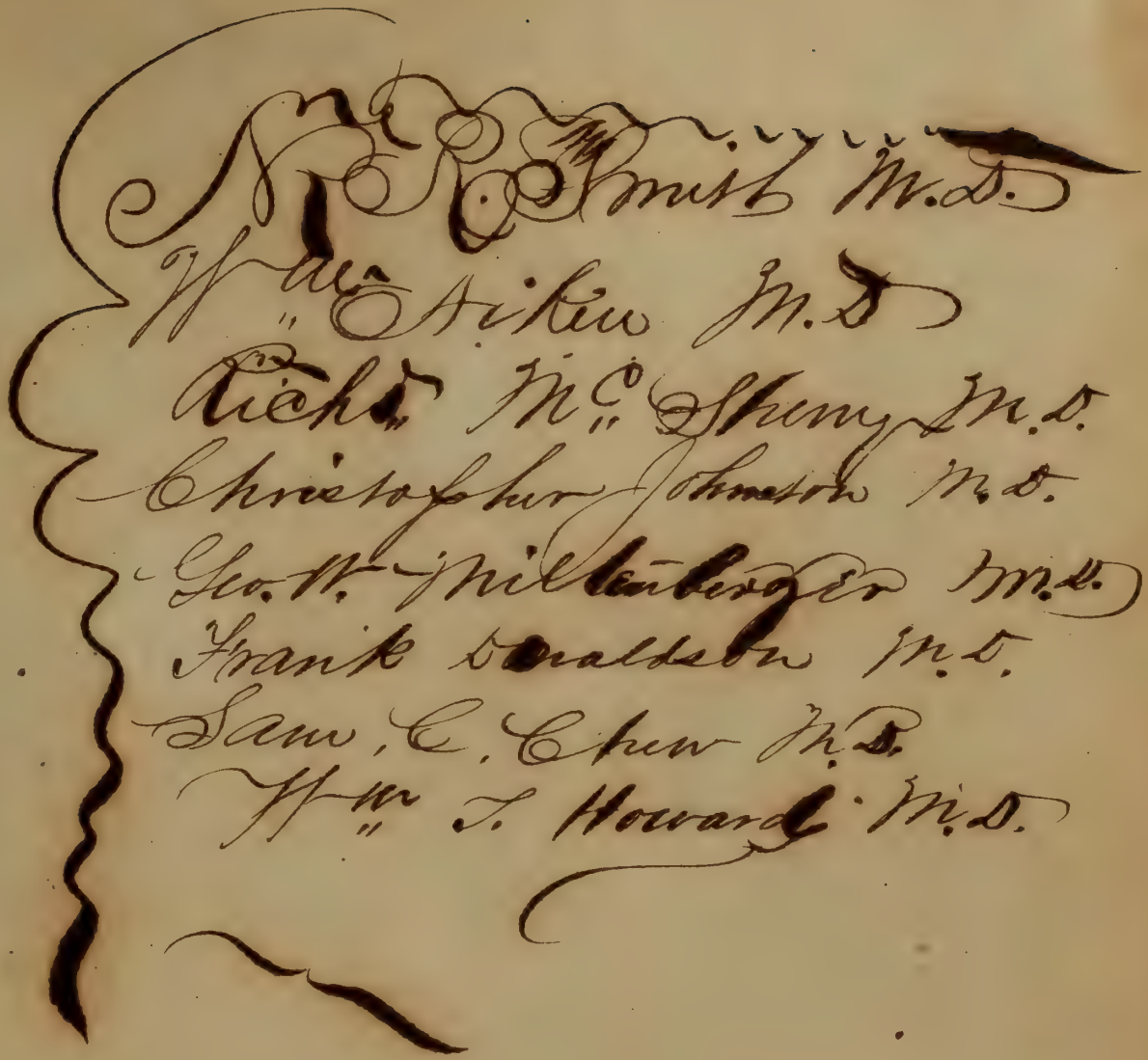
R. Smith M.D.
Wm. Aiken M.D.
Richd. McC. Shuey M.D.
Christopher Johnston M.D.
Geo. W. Miltenberger M.D.
Frank Donaldson M.D.
Saml. C. Chew M.D.
Wm. T. Howard M.D.

An Inaugural Dissertation on Gun Shot Wounds

Submitted to the Examination of the

Provost, Regents & Faculty of Physic

of the

University of Maryland

for the Degree of

Doctor of Medicine

by

F. A. Grove

Berkeleyville Fred. Co. Md. 1862.

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Gun Shot Wounds

Are usually inflicted by hard, round, conical or angular metallic bodies projected from Cannon, Muskets, Rifles, or other species of fire-arms

These are of much more frequent occurrence in Military Practice than the incised or punctured wound of the Sword or bayonet, the latter being most rare, that weapon not being often crossed in battle - but "these vile guns are the paramount consumers of the human blood"

With the preceding injuries are also included those arising from explosion of shells, from splinters on board ship, and stones &c on ramparts

Gun Shot Wounds are always more or less of the contused and lacerated kind, this con-

- tusion and violence is dependent upon the rapidity of propulsion of the bodies causing them.
The parts with which the ball has come in contact are usually found lacerated, and converted into a [illegible]-ish slough which quickly suppurates.

These wounds never heal by the first intention, the sloughing is partially an immediate result and in part secondarily caused by a preponderance of excitement over power

Hemorrhage is not usually very great unless large blood vessels be implicated; but as gunshot injury is generally very extensive and arteries of a considerable size being almost certainly wounded, no little danger may ensue from the immediate loss of blood.

Very frequently from the nature and form of the wound, very little blood may appear externally whilst a hemorrhage is advancing internally which will inevitably terminate fatally.

In respect to the general character of Gunshot wounds bleeding but little unless large vessels are injured, it is a fact depending upon the amount of contusion necessarily depending such injuries; although some Gunshot wounds bleed but little immediately after their occurrence, nevertheless there is eventually in a greater number of cases more or less loss of blood, especially in wounds of vascular parts; as in the face where we usually have a profuse flow, though no injury may have been sustained by any of the main

arterial branches; another circumstance has been observed which is also occasionally found in other cases viz:- when a large artery has been partially severed the hemorrhage is more profuse and dangerous than if it had been entirely divided. This is owing to a prevention of a conservative effort of nature in contraction and retraction

The extent of injury is of every variety, a ball may merely touch the surface causing a slight bruise; a bone may be fractured; and the continuity of the integument not destroyed; it may lodge entirely in a part, it may effect complete perforation, it may rudely amputate a limb, or crushing it in a fellow yet leaving it in contact with the living trunk. The foregoing may be reduced into four kinds—.

1st Contusion without penetration on account of the ball being too much spent, or the oblique manner in which it comes in contact with the body.
2nd It may enter and lodge showing only one aperture.
3d There may be two openings one at the entrance, the other at the exit of the ball.
4th A whole limb may be torn off by a cannon ball.

Round Shot and Cannon balls seldom lodge whereas lodgment of Rifle and Musket balls is extremely common.

The aperture made by a ball in its entrance is smaller than that of exit, its edges are inverted often appearing considerably less in dimensions than the foreign body causing it, and even may sometimes look like an incised wound. - in Cases

of this character the ball has been propelled some distance without any great diminution of its velocity. Consequently the aperture is made with a comparatively slight amount of contusion or laceration and the track of the ball is closed by the resilience of the textures.

The aperture of exit on the contrary is of much larger dimensions than that of entrance having its margins ragged and everted.

At short distances the injuries inflicted are obviously of a lacerated character the aperture of entrance comparatively large, and its edges very rough grains of Powder also penetrate the surface, and often portions of the wadding are found impacted in the tracks.

The bullet when discharged at a longer distance, and still retaining great velocity, produces a wound which is smaller and more of an incised character as before stated at a still greater distance it may without destroying the continuity of the integument, bruise muscle and break bone.

Angular, sharp uneven bodies, such as pieces of iron, slugs of lead &c. produce far more extensive and dangerous wounds than round, even and smooth bodies such as leaden bullets.

It is not an uncommon occurrence for a ball in striking against a bone to split into two portions each taking a different direction, both may completely perforate, giving two openings

of exit, both may remain, or one alone may be imbedded in bone. The most frequent examples of the bisection of bullets are found when they strike the spherical surface of the Cranium, between the Tables of which either the entire ball or a portion of it may be found, or it may completely perforate &c. The sharp edges of the other bones of the body may also bisect.

Bullets unaltered from their smooth spherical form entering and lodging in a fleshy part, may not create a great amount of disturbance the wound healing in the ordinary manner, and in time the foreign body becomes surrounded by a quasi-serous membrane which may remain in that situation many years or it may occasionally

move from place to place without causing any great uneasiness, except it be perhaps during an atmospheric change; which it might frequently be of some practical utility on account of its assuming a Barometric character!(?)

The sharpangular bodies on the contrary are less manageable, suppuration is very profuse, inflammation frequently recurring, nature constantly attempting extrusion, and no closure of the wound can be obtained, until the foreign body be either thrown off by the efforts of Nature or dislodged by mechanical means, or inflammation may cease a diminution in the discharge occurs, yet there remains a Sinus leading to the foreign body, which must be removed to make a radical

Cure, the bullet in this instance
is also surrounded by a membranous
envelope not serous-like in its char-
-acters as the preceding case, but
rather mucus and has an outlet.

In Gunshot wounds
if there be but one opening we
may infer that the wound contains
a foreign body; — to this observation
however several exceptions occur —
when a ball without destroying the
continuity of the clothing, carries a
portion of them into the wound in
the form of a sack, which when re-
-moved also brings the foreign body
with it; should this circumstance
not be noticed, the single opening
leads to the idea that the foreign
substance remains in the part.
It is also possible that a ball
may be immediately stopped in
its entrance into the body and

them be ejected - by the elasticity of the parts - as in the Cartilage of the ribs - or the ball making a complete circuit - coming out at the point of entrance (?) this has been said to have occurred in wounds of the head.

Other foreign bodies such as portions of clothing, stone wood, earth, splinters of bone, and even portions of the body of one Soldier have been found impacted in the wounds of his comrade.

These foreign bodies cause numerous unfavorable symptoms, irritating sensible parts, exciting pain, inflammation, long continued suppurations, convulsions, lacerations &c. the more uneven sharp or angular they are, the more likely are they to produce the above in-

Toward results consequently Spiculae of bone are most to be dreaded.

Gunshot injury of the bone, of any kind is always unfavorable inflammation is lighted up in a bed of diminished power and Necrosis is the final result.

The Shock sustained by the system in an attack, it may as in other injuries be of two kinds Mental and Corporeal, the former soon passing away when the patient is reassured, but the latter being altogether independent of the mind. The depression is in proportion to the extent of injury and vitality of the organ implicated. If for example an arm or a leg be carried away by a round shot or shell; or a bullet in its course has implicated some of the important internal organs as the lungs, liver

or Stomach, deranging the whole System; the patient is found in a very depressed condition and greatly alarmed, the latter being entirely independent of his control.

This derangement is caused by a lesion of organic function immediately connected with life, or the great nervous centres—, if on the contrary there be a flesh wound or simple fracture, the depression will be slight and transient, quickly passing off or rapidly yielding to the ordinary restoratives; yet in some it produces a deadly pulseless vomiting, profuse perspiration and an universal Tremor which may be removed by a mouthful of wine, or an opiate—, but above all by the Tenderness and sympathizing manner of the Surgeon with his assurance of safety.

If however the wound is apparently slight and the depression cannot be subdued; we may be tolerably certain that some internal organ of importance has been injured; if the depression be both great and protracted the inference is; that the wound has reached a vital part, and we are compelled to give a cautious and doubtful Prognosis

The heat of action may at the same time modify the shock, but this will not continue longer than the excitement. The mind also often remains clear, firm, and undisturbed without the slightest symptom of mental or corporeal agitation.

It was at one time supposed that death might be instantly caused by concussion, the shot passing in close proximity to the

body, but not actually touching it, and that fracture of bones, bruising and laceration of muscles and arteries might occur in the same manner. These were termed "Wind Contusions" Much "Wind" has been expended in fruitless attempts (even by able supporters) to prove the reality of this Theory; in support of this the following examples have been adduced; The terrible consequences of sudden and violent explosions; the effects of strong commotions of air upon the hearing &c. these reasons are entirely irrelevant and do not at all confirm the reality of the "Windy" Theory, but can be better attributed to, or explained upon Philosophical principles. More modern observation has however fully exploded this erroneous supposition, as a proof of which cases are known,

in which a portion of the Cap, Dress, feathers, and even the hair have been carried away without the least injury being done, Cannon balls often rudely amputate whole members without causing any injury to the adjacent parts

These "Wind Contusions" are in reality caused by spent balls coming in contact with the body - yet with so little quickness of force, as not to make an open wound, merely rolling over and round a part in the same manner as a wheel passes over a limb.

Cannon balls when first projected pass in a rectilineal course, soon assuming a curvilinear parabolic direction, rotating at the same time on their own axes This rotation increasing as the distance increases and the velocity diminishes, hence their Tendency

To roll over and around a part.

Very slight obstacles are required to cause a ball to deviate from its rectilinear direction as shown by a ball, rebounding on enter a book, button, watch &c. have been the means of preserving life

In deeply penetrating wounds, bone, muscle, fascia &c. deflect the ball from a right line occasioning a most devious track, examples are on record, in which a ball entered the breast and lodged in the scrotum (?) one in which it entered the centre of the Humerus and presented on the fore part of the opposite Thigh (?) - a bullet has been found to be the nucleus in a urinary Calculi.

The causes of these many peculiarities attending Gun shot wounds have been sought

for under the laws governing bod-
-ies in motion,

To determine the me-
-chanical effects of a ball, we must
take into consideration the form,
momentum, and direction of the
shot, also the variety of density and
power of resistance in the part re-
-ceiving it, To satisfactorily account
for the effects produced we may
always form a much more probable
conjecture of the course of a ball
if all the data be known.

Attempts
have been made to explain the
cause of shock or concussion
given by gunshot wounds to the
system upon the same principle
of density and resistance of
parts, thus a shot striking a
muscle in action, a tendon or bone
is claimed to produce a greater

degree of Concussion than if it had entered the soft parts—; but it must evidently be admitted that a lesion of some of the internal organs essential to the maintenance of life, and ranked as soft parts produce a far more depressed condition than the collision with muscle, Tendon or bone.

The danger and extent of Gunshot wounds can seldom be determined before the Suppurative event has been established; then the sloughs separate being usually greatest at the orifice of entrance, and on their separation, arteries, bones, joints, or may be exposed, which were thought not to be implicated.

One strange effect occasionally following Gunshot wounds, (the rationale

of which is not well understood,
is an inflammation and suppur-
-ration of some of the internal or-
-gans, principally the Liver, these
effects have been said to arise from
constitutional irritation depending
upon the local injury; it has also
been conjectured that there is an
absorption of some specific matter
from the wound.

The amount of
sloughing cannot be conjectured
from the extent of the bruising
or laceration, because the deadened
parts bear no proportion to the lac-
-eration or wound in general; this
can only be determined when the
slough entirely separates, often pro-
-ducing serious complications, and
if it be of an artery fatal hemorrhage
may ensue, in again recurring to
hemorrhage I may speak of another

Species more dangerous. This occurring in Gunshot wounds which have long undergone copious suppuration; in this instance the blood does not issue from an individual vessel, but exudes as it were from the entire surface of the wound in the same manner as it would from a Sponge - Grave like; resembling in character blood and water, and is in fact composed principally of Serum; hemorrhages of this variety are of a very dangerous character, because they particularly exhaust the already debilitated patient; The causes are difficult of removal, the exhibition of Tonics, are demanded, Bark, Quinine &c. with the dilute Sulphuric acid, and at the same time applying to the wound a warm decoction of bark with a

proportion of Muriatic Acid.

Returning from this digression — Sloughs of the intestines are not unlikely to occur when these parts are wounded, the bowel is perforated the contents escape into the Cavity of the Peritoneum causing the worst and most fatal form of Peritonitis.

Many untoward results are liable to occur during the progress of cure, excessive inflammation, fever of an inflammatory Character, Erysipelas, abscess caused most probably by the lodgment of the foreign body — Phlebitis of the diffuse or suppurative kind with all its concomitant results, extension of sloughing — sloughing Phagadena, mortification &c. Fractures also refuse to unite followed by caries, and necrosis, hectic ensues with all its exhausting

and, prostrating results, Tetanus may supervene and death closes the scene.

Gunshot wounds in crowded Military Hospitals, if they be established in unhealthy situations where little attention is paid to cleansing and ventilation, are liable to be attacked with the worst and most dreadful of all scourges - viz: Hospital Gangrene, the fatality of this disease formerly, may perhaps have been greatly aggravated by a long rough journey with the wounded indifferent food, mental depression and want of cleanliness; - its virulence in more modern times has been greatly modified, by a better knowledge of its Treatment, which consists in fumigations with Nitric acid, Chlorine &c. and above all by the removal of the patients and a

thorough cleansing of the inards.

The great efficiency to which modern invention has brought the use of fire-arms, both in point of accuracy of aim and length of range, renders their effects on the battle-field more terrible than formerly, these effects are more marked in those arms from which the "Minnie" ball is discharged; this ball is a conical pyramid with a deeply concave base, the whole explosive force of the powder acting on this concave surface spreads the ball, filling the grooves of the gun, and propelling it with almost incredible velocity; at the same time there is communicated to it two motions independent of propulsion, 1st a revolution upon its own axis in the long diameter. 2nd the base of the ball describing a circle, forming an imaginary pyramid, the apex of which corresponds

To the apex of the ball,

With these three motions and its great velocity combined, it most fearfully tears and lacerates the soft parts, thereby greatly increasing the amount of sloughing; - if on the contrary a body of greater density, as cartilage, tendon, or bone be struck, the ball is scarcely deflected from its rectilinear course, tendons are torn cartilage disorganized, and bone fractured, completely crushed or finely splintered driving these Spiculae deeply into the soft parts producing all the unfavorable results of the sharp and angular bodies previously alluded to; - however these wounds usually demand amputation -

The old Spherical ball on the contrary is easily changed in its direction, is not projected with the same degree of force, or

account of its spherical form, the powder not acting directly upon the centre of the mass as in the conical variety— these round balls may impinge upon bone without causing any serious consequences.—.

Treatment.

The first thing to be considered in Gunshot wounds is whether we shall suffer the part to remain if it be an extremity, and attempt a cure, or amputate immediately; the same treatment is applicable in wounds of this character, (should we endeavor to effect a cure) as in contused and lacerated wounds in general.

When a bone is very much shattered, more especially at or near the joints, when the large nerves and blood vessels be implicated and injured to any extent, when we find the entire limb a mass of

an insensible condition caused by the violent concussion, when the limb has been carried away leaving a shapely stump and the certainty of its proving inserviceable should it heal; when the limb is shattered, leaving the vessels entire; when a part is completely disorganized by a spent ball without destroying the continuity of the integument, and in compound fractures of the thigh bones, more particularly at their upper extremities

In a majority of the above named cases primary amputation is demanded, which it is the Surgeon's duty to perform immediately, or before inflammation, fever, and a tendency to mortification supervenes.

It is sometimes difficult to determine upon the propriety of an

amputation in degrees of injury less violent than the preceding; the Surgeon must have to take into consideration, the circumstances attending the case; - such as - the condition of the patients constitution, general circumstances, accommodations, food, air, rest &c. - these are matters of vital importance & the Surgeon must maturely consider the propriety of an operation before he ventures to decide

There are reasons which oppose an operation, but they are not sufficient to warrant in general the delay of amputation; they are the following - viz: - The system being disordered by a Terrible injury, may be unable to bear up under the shock produced by the loss of a member; and examples are found on record in which frequently wounds of the most dreadful character have been restored by Nature

assisted by judicious Surgery.

The grounds favoring an operation are various, some of which have been alluded to; others are -, the patient exchanges a dreadfully lacerated wound for one of a simple incised character; if the limb is suffered to remain it produces perilous consequences by extensive suppuration &c; the pain produced by the extraction of foreign bodies is as great as that of amputation, and even the loss of the limb may be remedied by an artificial one which will undoubtedly prove far more serviceable than the lost member.

In performing an operation the Surgeon should not take into consideration the loss of the limb, for by that privation he designs to save the life of the patient, and considers the preservation of the limb an

impossibility. If an amputation is determined upon, it should be performed without delay, before the unfavorable symptoms previously alluded to ensue.

It should not, however, be attempted if even the local injury indicated the necessity, unless a reasonable prospect of success exist; for example. It is bad surgery to exhaust a patient by an operation, when the wound is mortal, thus by endeavoring to remedy the lesser evil, we shorten the brief existence of the doomed one.

It was formerly the plan when amputation was considered inexpedient to dilate the wound in order to extract the foreign body, the dilatation was said to have the advantage of topical bloodletting, evacuating the extravasated fluid, and dividing the ligamentous aponeurosis which would

otherwise give rise to Spasmodic Symptoms- Modern observation however has proven the error of this practice and the inutility of these dilatations, they usually aggravate the inflammation, which it is of paramount importance to subdue.

Wounds not thus dilated heal more rapidly than those which are; and further the dilatation of a part is also an extension of the first wound producing the same results with perhaps an additional amount of injury just equal to the dilatation. On the contrary if it could be proven that the effects of dilating a part were identical with those of the primary wound, the method would be a good one. Common sense would therefore teach us the impropriety of dilatations, and the disadvantages arising therefrom

The most urgent demands for dilating a wound

are; in the extraction of foreign bodies, it may be necessary to remove as many of these at first, as possible, from the fact that they greatly irritate, causing violent nervous and inflammatory Symptoms profuse suppurations &c, which may be avoided by a Timely removal; it should also be Taken into Consideration that their removal causes immense irritation; often they are found so firmly imbedded in bone or other parts rendering their removal impossible and even hazardous. Under such circumstances it is better to wait until Suppuration and Sloughing has occurred, which enlarges the wound; the bodies Spontaneously approach the Surface admitting of removal without dilatation

It is best then only to extract immediately those bodies which have lodged near the surface and which is removed with Comparatively little

irritation. Sometimes we find a body pressing upon an important organ inducing dangerous Symptoms it is then plainly our duty to remove the cause

The examination of a wound should be made as much as possible with the finger as it has less tendency to irritate and we are better enabled to detect foreign substances; in a majority of cases however we are compelled to use the probe, which should be done in a gentle yet determined manner, we should place the patient if possible in the same position occupied at the time of receiving the wound, giving us a better idea of the course of the bullet.

In regard to deeply penetrating wounds it should also be remembered as previously stated that these bodies often remain many

years without producing any unfavourable symptoms, consequently if the probing be painful, and the track of the body obscure it would be better to relinquish this work until after suppuration has occurred, when it can be done with much more ease and with a much greater prospect of success.

Probing should never be attempted when inflammation has taken place the tenderness and swelling are peculiarly forcible objections to such a course.

A great variety of instruments have been invented for extracting foreign bodies, or to ascertain their position, however numerous these varieties they may be divided into three kinds; the first are constructed on the same principle as the common forceps the ends being arranged so as to hold a ball securely; the second are

Shaped, something like a spoon; the third are made upon the principle of a Cork Screw, and only used when the ball is found imbedded in bone and immoveable; forceps have also been constructed with blades to be introduced separately and then joined.

These bullet extractors are however almost entirely superseded by the common forceps.

It is usually difficult to trace a ball lodged in a part, the wound collapsing leaves the opening smaller than the ball itself, the direction is not always straight, but is often very devious, more especially in spent balls, all painful examinations may therefore be avoided until the first inflammation has passed, when the situation of the bodies may be more easily ascertained, if found beneath the integument they must be cut down

upon and removed; this is more es-
pecially indicated if the integument
be so contused that it will eventually
slough, but if the ball can just only be
felt beneath the skin, lying very deep-
ly, and the integument uninjured, no
cut or openings should not be made,
if they are the inflammation is
always rendered as great at the bot-
tom of the wound as at the orifice;
the wound should consequently be
permitted to heal and the body be
afterwards extracted, if required.

Some authorities do not
assent to this procedure but main-
tain that great numbers of balls lying
not more than an inch from the sur-
face have been removed, with-
out any inconvenient results ensuing, and
that those lying three or four inches
deep no incision at first be made
with a view to extract.

Balls sometimes penetrate the spongy portion of a bone if in this case it be but superficial they may be loosened and extracted by the screw bullet extractors if this fail, some writers recommend Trephining, others object to this upon the ground of excessive irritation necessarily following such an operation, remembering that a ball may remain lodged in bone, as well as in the soft parts (to which allusions have been frequently made) without causing any serious results or inconvenience.

Others again affirm that with a few exceptions a ball should never remain in the bone, insisting that it will cause caries, diseased joints &c. but it must also be remembered that these affections are due more to the violence sustained by the bone, than to the presence of

a foreign substance.

It is however generally conceded to be good practice to remove a ball at once if it can be done without any great amount of injury, and with some degree of certainty of success

The dressings at first must be superficial and of an unirritating character; nothing is more hurtful than to fill narrow stabs and Gunshot wounds with lint, the best method, is to dip a piece of lint into oil, or ointment of some kind to prevent irritation and apply a compress of linen kept constantly wet with cold water, and held in its position by loose bandages, the cold applications continued for a long time, the inflammation is often controlled, and in many cases entirely subdued.

Cold water is not an infallible remedy, there are many persons with whom Cold will not agree, in fact it only tolerated to a certain extent.

Cold is only productive of good results as long as it is agreeable to the feelings of the patient, whenever it produces an uncomfortable or shivering sensation its employment should at once be discontinued. When the inflammation has become very high the dressings are gradually changed to the Lepids and finally the warm. Fomentations are demanded when a slough is to be thrown off or when there is evidences of matter forming Poultices may be applied composed of Carrots, Marsh-mallow &c or more commonly of bread and milk which is as effective as any other, the great object in Poultices being the retention of heat and moisture they themselves possess by

diminishing the tension of the part, and hasten the suppurative stage (?) - attention must be paid as well to the time of removal as to that of application, as soon as heat and moisture are no longer retained a fresh one must be substituted, for by remaining it dries and becomes hard proving a fruitful source of irritation to the tender wounds.

I should have noticed as some of the first indications of treatment - Promotion of the departure of Collapse, but most especially the arrest of Hemorrhage; to fulfil the first. Promotion of departure of Collapse, if present to any serious extent encouraging language, and if necessary diffusible or even more permanent Stimuli, the latter however for obvious reasons should be always avoided if possible; the Second indication namely arrest of Hemorrhage may be accomplished when there is more

oozing; by cold and slight pressure, but whenever an important arterial trunk, has been wounded, the only means to be trusted to is the ligation of the vessel above and below the limits of lesion.

It may be necessary in order to reach the artery for ligation to dilate the wound freely, pressure in these cases is usually insufficient to stay the Hemorrhage, and can seldom be applied without resting injuriously on the adjacent parts, some of which, as well as a portion of the artery itself are pretty certain to slough.

Returning again to the antiphlogistic means, some of which have been previously spoken of, to which we may add rest, elevation, and relaxation of the part, by a careful adjustment, means are to be em-

-ployed as in other wounds attended with the same share of inflammation moderate unstimulating diet saline purgatives and diuretics.

Purging however is to be avoided in any wound on account of the injured part being disturbed during the alvine evacuations.

To relieve the congestion leeches may be applied: bloodletting is proper in patients of a full plethoric habit, when we have reason to fear extensive inflammation and fever of a symptomatic character.

Our practice of bloodletting should not however be too bold and heroic for if the patient is reduced to a certain extent, he may not have sufficient strength remaining to combat the long suppurations which almost unavoidably follow Gunshot wounds

Care should always be taken never to prematurely disturb a part, usually permitting the first dressing to remain three or four days; Rollers too should never at first be applied Surgically unless it be to retain parts in apposition, even if they were necessary it would not be expedient to apply them on the battle-field as they would soon become stiffened with blood and rendered unfit for Service at a time when a roller would be required

There was at one time considerable difference of opinion among Surgeons in regard to the propriety of an immediate amputation; this subject having been previously noticed will only be cursorily alluded to here

When a necessity for the

operation no doubt ably exists, it would be extremely improper to de- - Can it be beyond the time of reaction or recovery from the shock of the injury, the average time of which varies from Sixty Sixty three hours.

There is now little difference of opinion existing among Surgeons in regard to the advan- - tages of a primary amputation almost all concur in giving it the preference for obvious rea- - sons some of which have been stated

Upon the field of battle the Surgeon will scarcely be at a loss to select patients upon whom the operation can be ad- - vantageously performed.

He must indeed be grossly deficient in scientific knowledge who would,

indiscriminately operate on the sinking, weak, Terror Stricken and Strong -; the sinking may be mortally wounded, the weak restored by an opiate or a mouthful of wine, and Terror Stricken be calmed by reassurance.

A great variety of advantages arising from early amputations are laid down by different authors advocating the course some of which have been previously referred to.

Secondary amputations may be urgently demanded from various causes, some of which are; mortification, bad condition of the discharge, an unsatisfactory Stump, and Tetanus (?). - Before resorting to amputation in mortification

we should endeavor to combat the causes by constitutional and local remedies; never operating until nature plainly defines the limits of the disease. The discharges often become vitiated however skilful may be the treatment, occurring mostly in wounds complicated with a fracture, the bone showing no disposition to unite, Hectic and colliquative diarrhoea ensue and amputation is demanded in order to afford the patient the only means of safety. Bad Stump; The first may prove unsatisfactory the wound assuming the character of a fungous ulcer, cicatrization does not take place, the extremity of the bone projects, exfoliation may occur; again demanding an operation. Lastly. - Tetanus may under the circumstances

may be a sufficient warranty for the operation -, this however is question - able, yet if it be determined on it should be performed as early in the disease as possible

These Secondary amputations are usu - ally less successful than the primary, and also more successful in Civil than in Military practice.

Gunshot wounds of the abdomen may be of two kinds - first those entering the walls of the abdomen -- Secondly those penetrating deeply into the Cavity injuring the Viscera.

If the projectile does not in - - jure the Stomach, Liver, Intestines bladder or any of the large vessels or nerves; with proper treatment a good result may be obtained. perfect rest and antiphlogistic

regimen with opiates are to be relied on; this will however in a measure depend on the velocity of the ball in proportion to the force of which will be the extent of sloughing, from which fatal consequences may ensue.

In wounds penetrating the abdomen by cutting instruments, as the sword, bayonet &c. our main reliance is on the lancet, assisted by abstinence, complete immobility patient in the supine position, if there be much pain and swelling, events which almost invariably accompany such wounds, we must apply leeches, warm fomentations, and gentle purgatives, the latter being of extremely doubtful propriety more especially if we have reason to suspect wounds of the intestines; for by increasing the

peristaltic action of the bowels they render the danger to life doubly great, opium then would be our sheet anchor,. Should we desire to empty the bowels, perhaps the best method would be mild Clysters of oil &c. frequently given.

The dressings should be of the simple and lightest character so as not to interfere mechanically; Foreign bodies should never be searched for here unless situated superficially

Wounds of the bladder frequently occur usually proving fatal by the escape of the urine into the cavity of the abdomen and infiltrating into the cellular tissue producing gangrene, a gum Catheter should be passed into the urethra, removing it every two or

three days to prevent any increas'a-
-tion. Dilatation of the wounds
may be necessary to facilitate the
escape of the urine; this will not
be needed if the Catheter and dress-
-ings be properly applied; the latter
must be simple light, and clean.

Low regimen, complete quie-
escence, acidulated, demulcent
drinks, and emollient clysters,
bleeding both general and topical
will also be of great benefit if ju-
-diciously employed. For balls
remaining in the bladder the
usual operation of Litholomy
must be performed.

Wounds of
the Chest, are generally formi-
-dable in their character, often
proving immediately fatal,
wounds of the lungs were once
thought to be necessarily fatal, but

are now known not to be so, those made by balls being less dangerous than those of an incised character on account of the great disposition to hemorrhage in the latter with effusion into the cells of the lungs and cavity of the chest. All extraneous substances must be removed from the thorax if possible, the lancet to be freely used; and as often as the danger of suffocation from internal hemorrhage occurs it is urgently demanded; indeed the lancet is our only hope till the danger be past; after the moderation of the symptoms of suffocation and pain, Digitalis may be given with good results, if there be much cough the Ipermaceti mixture with opium seems to prove most beneficial, keeping

the patient on strictly low diet, with the exhibition of some of the saline purgatives, and mild laxative clysters.

Lastly wounds of the head, these may be of every variety, from mere laceration of the scalp to complete perforation, fracture of every variety may occur, succeeded by the usual symptoms, and requiring the treatment adapted to those cases, if there be depression we must relieve the brain; we attempt to fulfil this object by bleeding, Purgatives and Cold; if these fail we Trephine - If perforation has occurred our prognosis must be unfavorable, probing would be bad Surgery - our treatment can only be palliative, and in spite of our best directed efforts the termination will be fatal.

Respectfully Submitted

F. A. Grove

Feby. 14th 1862

the mind or body; for instance, temperature, poisons, sensual impressions and ex-[illegible] passions.

Though there may be a great many circumstances which may act on the body as exciting causes of disease, yet there is not that [illegible] relationship, in many instances, existing between them as causes, and the diseases as effects, which we daily see from the analogy of causes and effects in some [illegible] sciences. In Chemistry [illegible] that certainly and uniformly follow causes. [illegible] whether these effects will be manifest to the physician in disease or not, will often [illegible] [illegible]

because as a general rule, disease is the consequence of their existence.

It is well known to us all that [illegible] [illegible] [illegible] exposure to cold, is the incitement to catarrh: the exposure to the malarial poison, of [illegible] fever. Yet we often see persons eating unwholesome food; exposing them[illegible] with [illegible] and the exciting causes of [illegible] & fever, who escape disease.

This uncertainty of action can not be ex[illegible] explained, unless we attribute it to the various powers by which the body is enabled to resist the morbific influence, and which vary under different circumstances.

[illegible] of disease can be largely divided into the

predisposing and exciting causes.

The application of these two causes is ge-
[illegible]
[illegible]

As a proof of this, let us view the different effects which exposure to cold will have on several persons: in one, it produces [illegible]; in another, rheumatism; in a third, it will occasion diarrhea; in a fourth, pleurisy; and in others, no effect at all.

Although all were exposed to the same cause, it had various effects.

[illegible] who were attacked by the dis- [illegible] [illegible] [illegible]. The others had

no predisposition to the disease, ... the
exciting cause which was insufficient
... the predisposition to the disease,
was consequently powerless.
A consideration of these facts, simple as
they may be, throws light on the nature
and effects of many predisponent causes
of disease.
There is, I think, in every organized being
a certain conservative power, which, if
not abused, opposes the operation of
noxious agents, to a more or less extent,
and labors to expel them when they are
introduced.
Indeed, if we peruse the voluminous
writings of both ancient and modern
[illegible]

the existence of this pervading deity [illegible]
human race was recognized, [illegible]
the infantile years of the human [illegible]
[illegible].
Hence, it was the "Archaeus of [illegible]
mont, the Anima of Stahl, the Vis
medicatrix naturae of Cullen"
A theory, both beautiful and simple!!
Though we may not wish to suppress it
[illegible]
of living matter, we see its daily oper-
[illegible]
exertion; that systematic [illegible] with
[illegible]
[illegible]
[illegible] ejected from the body; in the flow
of tears to wash a grain of dust from

the sensitive eye; cause in inflammation [illegible]

[illegible], by which any foreign substance is removed from the flesh.

This "vis conservatrix" of medical writers, is seen in the various exciting causes of disease, and in persons enjoying good health, it is sufficiently competent to resist them.

For instance, if the exciting cause be [illegible] "vis conservatrix" operates, and the person is carried off by an increase of some of the secretions.

[illegible] if the general health be undermined [illegible]

[illegible]

[illegible] remarks [illegible]

have made on the causes of [illegible]

I think they may be summed up in this:

they are circumstances inducing disease.

If potent, one may suffice; if weak,

several may be requisite to operate the

effect before the morbid change of func-

tion or structure, which is considered

to constitute disease, ensues.

Debilitating influences, occupation,

peculiarity of constitution, disease

present or previous, may be considered

[illegible]

Pathologists in general admit that

[illegible]

the most fruitful incitement to disease.

-citement, it seems [illegible]

that constitutional [illegible]

sufficient power to resist [illegible]

It would then follow as a natural conseque-

-nce that the weakening of the body promotes the conta-

-gion to disease, especially when the action

of the heart is enfeebled, or the nervous sys-

-tem is impaired. An eminent Pathologist

[illegible] with such attention, confine-

-ment and impure air.

The evil effects of these two causes are suf-

-ficiently apparent to us without much com-

[illegible]

many inhabitants of our own city

The pallid, cachectic complexion of persons

who dwell in crowded cities, narrow streets

ill-ventilated houses, deprived of the [illegible]

The tendency to disease is not unfrequently caused by previous disease, which may be traced to causes which peculiarly act on the different organs and to the persistence [illegible] history of the recurrence of the cause. An individual who has once suffered from an attack of gout or rheumatism, is liable to it when on the application of the exciting [illegible] first attack, he may not be free from some functional or structural injury [illegible] last attack, and which may be again [illegible] exciting cause.

[illegible] causes operating, either in the patient, in the body, not unfrequently predisposes to [illegible]

[illegible] changes, independent of its debilitating [illegible]ence.

[illegible] structural lesions of the heart, tuberculous deposits in the lungs, if they bring [illegible] on disease, under these different organs [illegible] to disorders from other causes.

The influence of hereditary transmission [illegible] well proven by so numerous and positive facts, is another predisposing cause.

Indeed the peculiarities of configuration [illegible] or features are not more decidedly [illegible] from parent to child [illegible]

In some instances this hereditary [illegible]

[illegible] could other than the one we now [illegible] have taken ... immortal soul will ... act on celestial ... for eternity.

I have now reached the second part of my thesis, the exciting causes of disease, or the consideration of those circumstances which acting on the human [illegible] ... ing arouse the slumbering germ [illegible] ... may be largely confined to the two following [illegible]: those agents, the existence of which [illegible] ... [illegible] only, those the power of which [illegible] ... only known to us by the morbid effects that they produce on the system.

stimulated, soon refuses its [illegible].

The nervous system seems to feel more especially

[illegible]

Narcotic poison & other producers, if they are taken in excessive quantities: Hence, the cerebral functions are disturbed, attended by apoplexy, delirium tremens &c.

Even when less excessive in use, other minor effects are produced which tend to show that the system can not with impunity be abused by such artificial excitement.

The exciting causes may also be called into [illegible] the injudicious usage of unwhole- [illegible].

At times we find our articles of diet adulterated by noxious matters, which gradually act as poisons. Impure water, used as a

[illegible] is an ordinary cause of disease, containing more or less decaying vegetable or animal matter [illegible]

[illegible] Federal Army of the Potomac, which [illegible] deprived of that great luxury of life - [illegible] water - was necessitated by its position in Virginia to make use of the impure water of the river, the usage of which destroyed almost one half by producing violent diarrhea of diarrhea and typhoid fevers.

Other specimens of water bring on various diseases. It is told that persons who use [illegible] impregnated with lime are more [illegible]

[illegible]

... table and animal kingdom.

Mechanical causes and chemical ... are daily witnessed of another class of ... causes of disease. We see these ... hourly shown by terrible accidents ... impair the structure of the frame, or impede any of its functions.

... for example, is induced by the long ... pressure of articles of clothing around the throat, which impede the circulation ... to the head; the violent crushing or ... of a limb, or a violent blow on the ... fainting and extreme weakness ... the action of the heart.

... has also been proven that the many ... originating in the alimentary canal, are

fact that disease exists ... in ... ...

classes

These circumstances, able for ...

... not well explained, unless ...

assume that causes do exist, although ...

... prove their existence in any other way

... an example under this class, I would

suggest the Malarial poison.

The true nature of marsh malaria, ...

...

It has never been detected by Chemical Analysis

...

... some knowledge of the general properties

of the malarial poison through its ...

... ... All that we know

One of the most remarkable characteristics of the disease [illegible] in the malarious intermittent periodicity of attacks, and the remission and cessation of the symptoms in the interval. "This, according to [illegible], is due to the intermittent accumulation of the malarious influence in the body, and the reaction of the vital power against it."

With regard to the nature of epidemic influence, little has yet been discovered. Many conjectures have been advanced, some satisfactory, others, without much substantial support.

As a concluding remark, we have seen [illegible] ...al standard of the [illegible]

function of the body, which changes common

on its composition; and that the causes

thereof are those noxious projectiles

[illegible] [illegible] of Hippocrates.

[illegible]

Also that there is an Antagonistic principle

of vital resistance in the human system,

which leads to various processes of reaction,

and which may be variously exhibited, accor-

ding to the relative strength [illegible]

previous [illegible] of this resisting power, which

[illegible] been called the vis conservatrix

naturae.

Alex. [illegible]

Thesis.

Or a dissertation on Syphilis.

Submitted to the Provost
Regents and Faculty

Of

The University Of Maryland.

For the degree

Of

Doctor of Medicine

By William Greenly
Of Maryland

Jan 10th 1862

Syphilis

The etymology of syphilis is unknown. It is a contagious disease, communicable by coition, or by the contact of parts that are lined with a thin epidermis, such as the lips or the nipples.

Primary Syphilitic chancres may be produced by the contact of the syphilitic virus with any mucous surface, either entire, wounded, or ulcerated; But their most frequent seat is the genital organs;- in men they generally make their appearance in the furrow between the prepuce and the corona glandis, or on the inner surface of the prepuce;- because those parts are more convenient for the lodgment of the poison. The time of incubation of syphilis is usually from two to ten days; but some authors contend that the poison operates progressively from the time of its application,

and that the ulcer is fully formed by the fifth or sixth day; but may not be observed till later. There are many varieties of syphilitic ulcers. These varieties generally depend on the nature of the sore from which they originated, on the constitution of the patient, on their situations and also on the local treatment. Of the many varieties of chancre described by authors, I shall attempt to describe but three. First the indurated, second the non-indurated, and third the phagedaenic. The indurated, sometimes called the Hunterian chancre is commonly found on the inside of the prepuce or on the glans penis. It commonly begins as a small pimple or an excoriated patch, which after healing up leaves the centre ulcerous. It is nearly round, excavated in the centre,

leaveing the base and edges hard and somewhat like a cup of cartilage; there is generally not much pain or inflamation; but its colour is livid or tawney;- it is not so hard nor excavated when on any other part as when on the glans penis. This form of chancre is geneally produced when pus is introduced into any part for the purpose of diagnosis. The non indurated chancre is generally found on the inner surface of the prepuce. It most commonly makes its appearance in the form of a small itching pustule, which after a few days bursts, and becomes a foul tawny sore, accompanied with redness and swelling, at the same time becomeing circular and spreading. It is often at first covered with a brown scale of a dirty appearance. It soon after

throws out indolent granulations; after which it remains nearly stationary for a short time, until it comences to heal which process takes place slowly; being very likely to leave the parts red and indurated; and sometimes swelled, more especially if on the prepuce; but depressed if on the glans penis, because the tissue of the glans is incapable of throwing out granulations. If the ulcer be situated near the fraenum it is exceedingly apt to perforate it. There are several sub varieties of non indurated chancre spoken of by authors; such as the superficial sore the aphthous sores, and the multifarious chancre; these are very difficult to diagnose and the only sure test is inoculation.

The third variety of chancre that I shall undertake to describe is the phagedaenic

or sloughing sore. They are very rapid in their progress and also extremely painful, their surface yellow and marked with red streaks, their shape very irregular; their borders uneven and ragged; and they are attended with a profuse sanious discharge. The margins of these ulcers are occasionly puffy and oedematous; but are geneally of a very red colour, and often of a firm consistence. These chancres commonly spread widely but do not often penetrate deeply. sometimes they undermine the skin to a considerable extent. Both the simple and sloughing phagedaenic ulcers geneally affect persons of an irritable constitution, those whose health have have been broken down by exposure to damp or cold atmospheres, by debauchery, night watching, by confinement in the foul air of an

hospitals, or by the abuse of mercury. for this reason they often attack sailors prostitutes and soldiers, also persons who are compelled to work at night. Chancre in the urethra may be mistaken for gonorrhea; it may be suspected where the discharge is very irregular; at times thick and profuse at other times thin and scanty; or bloody; and where there is one hard and painful spot. But if the ulcer is not visible at the orifice the only true way to diagnose is by inoculation.

Of the diagnosis of chancre.

One of the best proofs that we have of a syphilitic ulcer is that it is situated on the genital organs; or that it is commonly circular with a hard and elevated border; that it appears soon after a suspicious coitus;

and that it will not heal under the use of remedies that are usually applied to other sores. But the surest test is inoculation, although I consider it generally useless and would not recommend it.
There are several affetions of the genitals that may be mistaken for syphilis. Balanitis, a variety of gonorrhea is an inflamation of the inner surface of the prepuce, which exconiates the cuticle and is attended with a purulent discharge. It commonly attacks dirty persons with long prepuces, or is caused by contact with unhealthy secretions in the female. It may generally be distinguished from chancre by the profuse discharge; by the superficiality of the sore; and from the fact that it commonly yields to mild remedies. Herpes preputiales and some other affections of the penis

commonly caused by some irritation of the urethra, or by some derangement in the digestive organs; which may generally be distinguished from chancre from the fact that they commonly yield to some mild aperient, or a weak astringent application to the sore.

Of the treatment of primary syphilis. There exists a great difference of opinion among surgeons in regard to the treatment of primary syphilis with mercury, but I think all good surgeons will agree and admit that it is the best remedy yet discovered for this disease. If you see the patient immediately after the appearance of the chancre and it presents a mild form of the disease it would be advisable to touch it with a stick of lunar caustic,

after which give a mild aperient and enjoin rest and a low diet upon your patient. But when the disease has been progressing for some time, the nitrate of silver will not prove effectual, and the caustic of pottassa or the strong nitric acid will be the better remedies. In cases where there is much swelling or inflamation the above treatment is not indicated, also where there is much tenderness about the groin or an irritable condition of the nervous system, the local treatment should consist of remedies capable of absorbing ~~distending~~ or decomposing the poisonous secretions. The bichloride of mercury or a solution of the chloride of soda are very good remedies in such cases. The mild chloride of mercury applied to the part acts an absorbent to the poisonous secretions. After the inflamation has

sufficiently subsided the astringent applications may be resorted to such as were named in the treatment of milder cases.
Mercury when not contraindicated should be given in all cases, because it hastens the cure of the primary sore, and affords a more decided security against secondary syphilis than any other remedy. But before giving mercury it is best to correct any derangement of the system that may be present, and also engoin rest and a low diet. Our object next should be to induce a slight mercurial action and maintain it until the desired effect is produced, which is the healing of the ulcers. Five grains of blue mass three times a day will generally produce the desired effect upon the system in from three to five days, after which the dose should be regulated according

to the symptoms. If blue mass should fail in any case to produce the desired effect calomel may be substituted.
During the mercurial course the patient should be kept upon a regular diet, avoiding all stimulating food or drink. He should be kept in an equable atmosphere and especially avoid the night air.
Excessive salivation sometimes occurs from the too free use of mercury, or by a sudden check to the secretions, or any accident that depresses the genral system. The practitioner should in every case inquire, before prescribing this remedy, whether the patient be susceptible to its use; because there are some patients who are violently salivated by the smallest quantity. Griping and purging are sometimes the ill effects of mercury,

which however may be obviated by a small quantity of opium or some other sedative. There is an eruption which sometimes arises from the continued use of mercury, denominated eczema mercuriale, which is characterized by patches of vesicles, generally making their appearance on the groin or in the flexures of the limbs, and afterwards spreading over the whole body. These vesicles soon suppurate and burst leaveing the surface excoriated, and discharging a thin acrid fluid. This condition may continue for a long time, during which the patient experiences much pain and tenderness. Opiates during the first stages, after which saline aperients, warm bath, the mineral acids and the bitter tonics will be the proper

remedies in such cases. There are other ill effects arising from the use of mercury, in all of which the remedy should be suspended and other medicines substituted. Mercury is not generally indicated in cases where it has already been abused, or in patients of a strumous habit and especially in those already labouring under pulmonary consumption. In all such cases the iodide of potassium is the best substitute. When severe salivation occurs from the use of mercury, the symptoms are softening and oedema of of the gums, inflamation of the fauces, tongue and salivary glands, attended with a profuse flow of saliva; and at length ulceration and sloughing of the gums and fauces. This condition should be treated with gargles of of the chloride of lime, hydrochloric acid, or some

other astringent; and at the same time the bowels should be relieved by a mild aperient, until the inflamation has abated, when the patient should be fed on a nourishing diet, and tonics should also be administered.

Of Bubo. A Bubo is the inflamation of a lymphatic gland. In persons of a lymphatic diathesis a bubo may arise from any local irritation, and particularly in gonorrhea. But a true syphititic bubo arises only from the absorbtion of poison from a chancre; and it generally makes its appearance about the time that the chancre begins to heal. Bubo is most commonly situated in the groin, and if it be acute will seldom effect but one gland. If the bubo be one caused by the absorbtion of virus from a chancre the gland will be attached

and suppurate. But if the bubo be caused by irritation of some part the cellular tissue between the gland and the skin is commonly the seat of suppuration. Chronic bubo usually effects more than one gland. It occurs in persons of strumous habits, and in those whose constitutions have been broken down by the improper use of mercury. It is a long time before the skin inflames, but when it does a large tract of it sloughs leaveing an indolent sore that may be months in healing. The first indication in the treatment of acute bubo is to produce resolution. This is best accomplished by saline remedies, leeches, fomentations, and low diet; at the same time keep the patient in the recumbent posture. If these means fail and suppuration is going on rapidly the lancet is the next resort. But the

surgeon should never be in haste to open a bubo; but to use every means in his power to produce resolution. In the treatment of the chronic or indolent bubo the general health requires especial attention. The tonic treatment should be employed, such as the mineral acids, sulphate of quinine, and especially a change of air. But if these measures should fail, and heat and pain still continue, while the suface becomes bluish and pus has accumulated, a blister should be applied to the part, or it should be stimulated to a healthier action by the nitrate of silver. All other treatment having failed the lancet or the caustic of potassa should be used for the purpose of opening the bubo. The nitrate of silver or some other stimulating application should be used after the matter has

been discharged.

Secondary Syphilis.

Secondary syphilis is a constitutional affection following the primary attack. It is owing to the absorbtion of the poison into the system and is characterized by scaly, pustular or papular eruptions upon the skin which after healing leave copper coloured blotches; accompanied by mucous tubercles, venereal warts, and ulcerations of the mucous membranes of the mouth throat and nostrils. The symptoms of constitutional syphilis are very irregular as to the time of making their appearance. In some cases they make their appearance in two or three weeks after the primary attack; but in others they may not appear for months and even years. I have not time and space

in this short essay to describe all the characteristic eruptions of this form of the disease; but as they all arise from the same poison, they all require the same treatment; varied however according to the constitution of the patient and the severity of the disease. The constitutional treatment required in this form of the disease consists of tonics, diaphoretics and alteratives, particularly the iodide of potassium, the iodide of mercury, sarsaparilla, and some of the preparations of iron. venereal warts and mucous tubercles should be washed with pure chloride of soda; and after they ulcerate with a weak solution of the same, after which they may be destroyed by the application of the pottassa fusa or the nitrated mercurial ointment. The ulcerations of

mucous membranes may be treated by the application of caustics or astringents

Tertiary syphilis.

This form of the disease attacks the superficial bones as the tibia os frontis clavicle and ulna. It produces nodes, caries of the bones, tubercles in the brain, and is often accompanied with syphilitic sore throat and rheumatism. It commonly appears long after the primary symptoms have disappeared, and generally after secondary syphilis, but sometimes while it is still present. The best constitutional treatment in tertiary syphilis are the Iodide of potassium, mercury in cases where it has not been abused, especially the protoiodide of mercury, the syrup of the iodide of iron, the

muriated tincture of iron and cod liver oil. In the treatment of the nodes the pain may be mitigated by the application of the extract of conium, or stramonium, and the nodes afterwards removed by the application of blisters and iodine.

I will now submit this short essay to your learned body for your impartial examination.

Yours with respect. William Greenly

An

Inaugural Dissertation

On The

Dysentery

Submitted to the Examination of
The Provost, Regents, and

Faculty of Medicine
Of The
University of Maryland
On the 10th Day of February 1860
For the Degree of Dr. of Medicine
By Edwin P. Gilbert of Md

Introduction

Among all the comforts allotted to mankind nothing is certainly more desirable than the enjoyment of health. But the human frame in consequence of its peculiar and delicate structure is so susceptible of disease that no sooner has the new born babe inspired the breath of life than it becomes liable to some of those diseases peculiar to the infantile state

We are informed by Holy writ that in the beginning when the Omnipotent Creator

formed man out of the dust, he enjoyed the most sublime happiness, and was altogether free from those pains and infirmities, to which his posterity have since been subjected. But as by his fall, he forfeited the favor of his maker, and was doomed to suffer both sickness and death; Providence therefore wisely implanted in him a natural instinct, to seek for remedies to preserve health, and moderate the violence of disease: for has he sought in vain. Many of those diseases which were formerly

supposed to be incurable, have at length yielded to the modern improvements in the healing art; and many medicines have been discovered of late, which act almost with certainty, in removing those complaints, which were formerly termed incurable. If this is the case, we have reason, I think, to entertain a fond hope, that e'er long, few avenues will remain to the grave, save that of old age.

In the first steps of our enquiry we meet indeed with much variety and obscurity;

but the further we penetrate into nature, we find so much analogy among all her works, as to be forced to acknowledge and to revere her simplicity.

I have chosen the Dysentery for the theme of my inaugural dissertation, not with the most distant view of doing it more justice than it has hitherto met with, or of saying anything new on the subject; but merely because I have had some opportunities of becoming acquainted with it. And although it has heretofore been treated of at

large, by many of the most re-
spectable medical writers which
the world has afforded, yet, even
at the present day, physicians
appear to differ in their opinions
respecting it. Its still frequent
occurrence and melancholy effects
will, therefore, I hope, be admitted
as a sufficient apology, for every
possible attempt to investigate
its cause, to elucidate its nature,
or to obviate with success, its
fatal termination.

Dysentery

The disease which is intended for the present dissertation is defined as being inflamation of the mucous membrane of the Colon and Rectum, characterized by small mucous or bloody evacuations; griping paine in the abdomen; straining at stool and tenesmus.

This disease is peculiar to no country, for instances of it are recorded by writers, in almost every part of the globe. It may occur in all places, and at all seasons but is generally most prevalent during the autumn, in cities, and other confined places, where

numbers are exposed to the same remote and exciting causes. It is often epidemic in fleets and armies; and the great havoc it has occasioned among soldiers in these situations, is well known. "The page of Military history weeps for the slain in battle less than for those who have fallen victims to this calamity."

History of the disease

The Dysentery (as was before said) may occur at any season of the year, in general however, it makes its appearance

towards the latter end of July, or the beginning of August, and cease gradually on the approach of winter. The disease is for the most part ushered in, by the following pre-monitory symptoms: The patient is seized with an universal langua and lassitude, general uneasiness impaired appetite, dull or transient pains in the abdomen, bitter taste in the mouth, sometimes with nausea and vomiting costiveness or diarrhea and other evidences of intestinal irritation. These symptoms are in a short time succeeded by morbid action in the arterial system, attended with fever pain

in the head, excessive thirst, bilious stools, and when the attack is very violent with delirium and coma. Generally speaking mere mucous inflamation of the large intestines is a mild affection; but it is very frequently complicated with disease in some other organ or organs, or with some morbid state of the system at large which greatly increases the danger of the affection. In some instances the pain in the bowels comes on unaccompanied by any apparent febrile affection, and is succeeded by tenesmus, and frequent, but small discharges from the bowels, consisting for

the most part, of an intermixture of blood and mucus, Together with these symptoms, the appetite for food becomes languid, but nausea and vomiting rarely occur. After an uncertain length of time the patient is attacked with fever, in a more or less violent degree, and with it the tormina and tenesmus become more considerable, and the stools more frequent. Dysentery is very common in miasmatic countries and is then frequently associated with intermittent and remittent fevers, from whence it derives the title of Intermittent and Remittent dysentery, sometimes

apparently occurring as a distinct disease more or less modified by the prevailing atmospheric influence frequently however, complicated cases may be distinguished from the uncomplicated by their paroxysmal tendency. As a general thing, in cases of Dysentery the bilious secretion is more or less diminished, sometimes this is nothing more than a consequence of the Colitis, but disorder of the liver and stomach occasionally attend the disease from the beginning. Under which circumstances the complaint assumes the title of Bilious dysentery.

It is characterized by a sensation of oppression in the epigastric region; vomiting occasional yellowness of the tongue, conjunctiva skin and mine; a high fever and a great tendency to delirium. This complication adds very extensively to the violence and danger of Dysentery, in tropical climates. Another form of this much dreaded disease, is termed the Adynamic it occurs in persons having been previously exposed to the action of various depressing causes. Persons confined in prisons or on board of ships, or camps, or marching armies, are most subject to this

form of the disease, caused generally by insufficient and unwholesome diet, fatigue, wet, cold, combined with a contaminated atmosphere which exert a strong tendency to prostrate the vital powers and vitiate the blood. Combined with the symptoms of common Dysentery in an aggravated degree, are those of malignant, Typhoid or scorbutic disease; nausea and vomiting; great thirst; a feeble frequent, and irregular pulse; a dry foul, brown or black tongue, sordes about the teeth; a dusky and sometimes hot, sometimes cold, skin occasionally marked with petechia,

gangrenous vesications &c; brown, or black stools, more copious than in the simple form of the disease, sometimes excessively large hemorrhagic discharges consisting principally of uncoagulable blood; considerable prostration of strength from the beginning, and various degrees of nervous disorder. All the symptoms above mentioned are not found in every case, sufficient however existing to indicate very closely the character of the disease. When this form of the disease becomes complicated with the bilious, we meet with an affection probably unsurpassed in malignancy, by

none other. There still remains one other form, of this disease, which I certainly deem important, to mention in this place, entitled the Typhous variety so called from its being associated with Typhus fever; Supposed by many to be the probable result of a peculiar poison, existing altogether independently of the bowel affection, with which it is associated. Besides the complications which have already been mentioned, I may mention briefly a few others which sometimes coexist with Colitis, among which are enteritis, gastritis, and enteric fever, and various others

both local and general in which case the symptoms will of course be modified by the affections with which they are combined.

Diagnosis

This part of the study of Medicine has been of late deservedly considered of much less importance than formerly, since the fallacy of prescribing, for the name of a disease has been so fully and in my opinion justly condemned by the generality of Physicians. He in this complaint however the hope of a cure depend in a great measure upon the mode of

treatment employed during the first few days of its attack, it therefore becomes a matter of some importance to be acquainted with it, in its early stage. Few instances perhaps ever occur in which the Dysentery may not be distinguished with ease from every other complaint. There are two diseases however with which it may possibly sometimes be confounded, to wit Diarrhoea and Cholera Morbus. The necessary discrimination between the Diarrhoea, and Dysentery, may be ascertained without much difficulty, by attending particularly to the following

circumstances. In the former complaint the alvine discharges are generally copious, consisting chiefly of natural faeces; and the disease is for the most part accompanied with little or no fever. In the latter the natural faeces are at least for some time retained, and when evacuated they appear in small hardened masses attended at the same time, with considerable fever, griping and tenesmus. These last mentioned symptoms do now and then occur in cases of Diarrhoea, but they are by no means so violent as in the Dysentery.

The diagnostic symptoms of the Dysentery, differ so materially from those, which characterize the Cholera, that it is almost impossible to confound them. In this last mentioned disease a bilious matter is discharged in considerable quantities, both from the stomach, and bowels, and the febrile symptoms are generally not so formidable, as in an attack of the former.

Causes.

These have generally been divided by authors into the predisposing and exciting causes. Under

the first head we consider debility either direct or indirect, or as it affects the whole or certain parts of the body only. In what manner therefore or by what means this debility is produced remains now to be mentioned, Among those causes which induce direct debility; the depressing passions of the mind such as fear grief and despair, are deservedly to be enumerated. These affections undoubtedly act on the whole system, but they appear to produce their effects chiefly on the stomach, as is evidently demonstrated by the defect of appetite cardialgia acid eructations,

and other symptoms, the consequence of a loss of tone in the muscular fibres of that organ. Cold is universally acknowledged to be a powerful cause in inducing debility; When applied to the body it produces langour and inactivity, and lessens both the force and frequency of the pulse. Preceding disorders debilitate the body, and predispose it to disease, hence the Dysentery frequently succeeds intermitting and remitting fevers. Famine also predisposes to this disease. Filthiness has always been considered a fruitful source of the disease. There are other

causes which predispose to this disease, by inducing indirect debility. Such as Heat consequently the disease prevails with greater frequency in warm climates, and in warm weather. The free use of ardent spirits is also an indirect cause, as well as excessive fatigue of either body or mind, therefore weakening the system and rendering it more susceptible of disease, Lastly Human and marsh effluvia also tends to induce it

Exciting Causes

From the concurring testimony, of many who have written on

Dysentery, it appears that the disease is more prevalent during the latter part of Summer, and beginning of Autumn, than at any other season of the year. The heat & [illegible]ing is at this time as a general thing more oppressive during the day, while the evenings are ushered in by a cool breeze, attended with heavy falls of dew. By this means the perspiration is checked and excitement thus directed inward; while the Hepatic secretion is at the same time arrested, and congestion of the portal circle, and consequently of the mucous membrane

of the bowels result. Substances directly irritant in their action on the bowels, are often exciting causes. Among which may be mentioned unripe and acid fruit, vegetables of difficult digestion, unwholesome food of all kinds, fermented Alcoholic drinks; impure water; drastic purgatives; worms; and feculent accumulations in the large intestines. Dysentery sometimes prevails epidemically over large tracts of country, but ordinarily confined to small and well defined limits. It often occurs in the (once) United States in this latter manner. It has been a question

of some argument whether or not Dysentery is a Contagious disease; Sometime back this disease was believed by many to be actually Contagious, Among the supporters of this doctrine I may mention Doctor Cullen. But I believe the profession are at the present day almost unanimous in opposition to the Contagious character of the disease in question. Dysentery attacks indiscriminately persons of both sexes and all ages, those that are most exposed to the immediate cause, are most liable to be affected. It is decided by most apt to occur in Miasmatic

than in other places; and strangers are more liable to be affected than those that are acclimated.

Anatomical Characters

Before speaking of the causes of the disease under consideration I should certainly have examined into the, Anatomical Characters, for in no instance I believe has dissection been of more utility than in the disease at present under consideration. Upon opening the bodies of the deceased, the large intestines are frequently found preternaturally thick and spongy, and sometimes entirely; mortified; or partly inflamed and

partly affected with gangrene. The rectum is generally most materially injured; its villous coat (according to good authority) being in some instances entirely detached. Clusters of ulcers are likewise frequently found in the Colon, and small ones have been discovered in the peritonæum and rectum. They are most frequently found in the large intestines, but they are sometimes also to be met with in the ileum; and there is generally an appearance of more or less inflammation in their neighbourhood. The small intestines are commonly entirely free from injury, but their circumvolution

are sometimes intimately connected together, in the same manner as the lungs and pleura, after being inflamed are often found adhering to each other.

Prognosis

The best indication that Dysentery is about to terminate favorably are the following; the pains become less severe and frequent, the stools become less frequent and more copious and assume a bilious character, and the tenesmus diminishes, lastly nothing but a slight diarrhoea remains which eventually ceases. The unfavorable

symptoms, are sudden cessation of the tremor and tenesmus, coldness of the extremities, a livid or purplish hue about the nails, a frequent feeble and irregular pulse, involuntary stools, hiccough, subsultus tendinum, delirium and stupor; which together are signs of a speedy and fatal termination. The usual causes of death in Dysentery is from a failure of the powers of life, under the severity of the irritation, from general debility, from gangrene, or from the continued depressing and exhausting effect of the associated inflammation and discharge. A prolongation

of the disease beyond two weeks, may of itself, be considered sufficient grounds for great fear and solicitude. In proportion to the extent of the Colon involved the greater or less may be considered the danger. Common sporadic cases in temperate climates are seldom fatal. It is most malignant when prevailing epidemically, or among great masses of persons, and in the intermittic districts of tropical countries, it frequently under the last mentioned circumstances commits terrible ravages.

Treatment—

The indications of cure are,
First, To mitigate and take off the fever.
Secondly, To remove irritation.
Thirdly, and lastly, To restore the strength of the patient.

In order to fulfill the first indication, the remedy which immediately presents itself to our view, is

First, Bloodletting. This is often an invaluable remedy in the early stage of the Dysentery. It is a matter of the utmost importance, always to draw blood at the commencement of the disease, if the febrile symptoms run high; for al-

this time, no evacuation is so well calculated to relieve the patient; none better adapted to take off the determination to the bowels. If therefore we are called at any period of the disease, and find the febrile and inflammatory symptoms to be considerable, and attended with much pain; venesection should be immediately practiced, and should be repeated as often as the urgency of the symptoms may render it necessary.

Secondly. Emetics. These are often highly serviceable in removing crudities from the stomach, and cleansing the primae viae. But

our great expectation from vomiting is, that its action on the muscular fibres of the stomach, forces open the extreme capillaries, forwards the circulation to the surface of the body, and induces to sweat. For this intention therefore, either tartarized or ipecacuanha, may, according to circumstances, be used. When administered in suitable doses, and at proper intervals, they not only prove emetic and diaphoretic; but often likewise, produce free and copious discharges from the bowels. They are often advantageously given in combination with each other.

Thirdly. Purgatives. Medicines

of this class have been highly recommended and freely used by all physicians. They are a undoubtedly of considerable utility in evacuating the indurated feces and acrid humours from the bowels; which, by being retained there, would tend to increase the inflammation, and aggravate all the symptoms. At the same time however, that they are given with an intention to evacuate freely, they should not prove too stimulating. Those of the milder class therefore, are always to be preferred. Under these impressions, the neutral purging salts, are, at

the present day in general use. The chief of these are glauber's salt, the bitter purging salt, and soluble tartar. Castor oil too, when it is properly prepared, and has not become rancid by keeping, is one of the best purges in the Pharmacy It frequently causes the painful gripes as soon as it is taken, and seldom fails, when it agrees with the stomach, to procure copious evacuations. Calomel is likewise an useful purgative. When the strength fails, or the symptoms assume a chronic form rhubarb may be substituted for the other cathartics. Great benefit will

often accrue from combining an opiate with the cathartic.

Fourthly. Diaphoretics. These act by determining the fluids from the bowels to the organs of perspiration. They may be used therefore with the greatest advantage in this stage of the disease. When the skin is hot and dry, small doses of tartar emetic, or of the neutral mixture, may be given, seperately or combined, at intervals of an hour or two. The effervescing draught is preferable when there is nausea or vomiting. After the general excitement has been subdued by depletion, the bowels

of Opium and ipecacuanha is preferable to the refrigerant diaphoretics. The warm and vapour baths are sometimes resorted to. In all cases the caution cannot be too carefully observed, not to allow the patient to be exposed to cold when the skin is moist. At the same time he should not be kept oppressively hot by the bedclothes, in order to promote perspiration. Opium is an invaluable remedy in dysentery. Not only is Calomel useful in the commencement as a purgative, but afterwards also, in smaller doses, so as to stimulate the hepatic secreting functions, and

Sustain a flow of bile into the bowels.

Fifthly. Bleeding. Should the pain in the bowels continue notwithstanding the several remedies above mentioned, immediate recourse should be had to the aid of bleeding, which indeed often not taken in season in removing this harassing symptom. They may be applied with advantage to almost any part of the body; but they are generally more certain in their effects, and productive of more immediate relief, when laid on the abdomen. Fomentations to the abdomen

and ephemeræ are likewise frequently of service in alleviating the griping pains.

The second indication was to remove irritation. In endeavouring to accomplish this, opium claims our most pointed attention.

In this stage of the disease opium is undoubtedly a sovereign remedy. It assists powerfully in removing the gripes and tenesmus, procures refreshing sleep to the exhausted patient, and paves the way for the use of tonics. When by the depleting plan above laid down, the fever and the determination to

the bowels, have been in a great measure subdued, and the termination sometimes appears to be owing to irritation alone; in such cases the use of opium will be attended with the happiest effects. It should be given in small doses throughout the day, and increased at night.

Demulcents may be used with advantage in every stage of the disease. they should be taken by the patient as common drink, and injected likewise, if necessary, in the form of gly[illegible] Starch, gum-arabic, or linseed, properly prepared, may be benefi-

-cially employed in either of the above intentions. They answer a good purpose by shielding and defending the intestines from the action of these acrid and irritating humors, which are constantly generated during the whole course of the complaint.

The third and last indication of cure was, to restore the strength of the patient.

Authors differ but little, with respect to the mode of treatment proper to be pursued in this stage of the disease, and here indeed their difference is of little consequence.

It sometimes happens however, after the most violent symptoms of the disease have been removed, that the discharge from the bowels, and tenesmus, will continue to be troublesome and distressing from mere debility and relaxation of the intestines, unaccompanied by any malignity or febrile symptoms. When this is the case, it will be proper to have immediate recourse to the aid of tonics. Of these, the Jesuits bark, simarouba, gratiola, colombo-root, and the mineral preparations of iron,

are I believe the most useful. If acidity prevails in the primæ viæ, magnesia, prepared chalk, or any other absorbent, may be prescribed with advantage, either alone, or in conjunction with some of the remedies first mentioned.

When the disease is reduced to the state of a simple diarrhœa, astringents, such as gum kino, alumen, and the red mineral, &c. may be beneficially employed. Should these fail, the nitric solution may be tried in the manner recommended by Dr. Moseley. It has frequently been of service, and should al-

-ways therefore be kept in view.

Pure air, together with moderate exercise; a nourishing and somewhat stimulating diet, and a proper attention to cleanliness, will all, powerfully tend to give tone to the system; and restore the strength of the patient.

"During the convalescent "state of those who have been "much reduced, and to pre-"vent a relapse, a flannel shirt, "or jacket, worn next the skin "is very beneficial. When the "bowels have suffered con-"siderably by the flux, and "cannot recover their tone,

"but from weakness are subject
"to return of the disease, or to
"diarrhoea or tenesmus, or the
"least exposure to cold; a flannel
"jacket next the skin, will be
"found almost a certain secu-
"rity and preventative."

Having now concluded my Thesis, I have only to bid a cordial and an affectionate adieu to this University, and its worthy Professors, under whose auspices, I have had the honour of finishing my Medical education. To you gentlemen, I beg leave to return my

warmest acknowledgements for the useful information which I have received from your valuable lectures.

An
Inaugural Dissertation
On the
"Vis Medicatrix Naturae"
Submitted to the examination
Of the
Provost, Regents & Faculty of Physic
Of the
University of Maryland
For the
Degree of
Doctor of Medicine
By
John G. Holland
Of Maryland

A student with but little experience, and whose knowledge of medicine is derived almost exclusively from books, cannot be expected to write much that is new, either in the nature or history of disease. But whatever disease he may choose as the subject of an essay, he can do little more than transcribe — if not the precise language — the ideas of those authors whose works on the subject he has read.

Wishing, therefore to select a subject on the elucidation of which I shall not be obliged to follow in the beaten steps of any author, I have chosen the one above — a subject on which I have seen nothing as a treatise or an essay, though many

vague allusions by different authors.

I have not the vanity to conceive that I shall be able to throw upon it anything like perfect light, yet you will not, I presume, be displeased with my submitting to you a brief outline of some one of the speculations to which it has given birth, together with the conjectures it has excited in my own mind.

Repudiating as I do the dogma which its author designed to inculcate by the use of this phrase, together with many others equally chimerical as set forth by the humoral pathologists of that day; yet the most cursory examination of the animal system, & the laws which govern it in health, & its

behaviour in disease, &c, must satisfy the mind of the most incredulous that there is such a thing as a Vis Medicatrix Naturae.

But before proceeding further, I will first notice the causes which gave rise to this doctrine, & the original import of the phrase as used by its inventor.

The humoral pathology, which the subject under consideration was the cherished dogma of some of its ablest advocates, justly claims an antiquity contemporaneous with that of medical history; & we learn that Hippocrates, the father of medicine, taught that increased heat is the essence of fever, & its proximate cause, the superabundance of bile, the black bile, the phlegm in the blood. The idea also seems to have been entertained by the ancients that the commotion in the system had the object of expelling the

superabundant or morbid humours or rendering them harmless.

These opinions continued to sway the minds of medical men till the great discovery of Harvey, which induced some modification in them, without essentially changing their nature. It was now understood that the bile and phlegm were mere secretions from the blood, and this fluid was then considered the chief, if not the exclusive source of mischief. Not only in the case of fevers, but in all other diseases, it was supposed that the blood becomes contaminated or depraved, either by the reception of noxious substances from without, or in consequence of changes going on within the body; that the system is excited by the presence of these impurities, either to direct efforts for their expul-

sion, or to a course of elaborative action so as to fit them for expulsion; for, in the language of Sydenham, "a disease is nothing more than a vigorous effort of nature to throw off the morbific matter, and thus recover the patient." This is the sum and substance of the humoral pathology.

According to this view, fever is only a violent effort of the system to rid itself of noxious matters; and the sweats, billious discharges, turbid urine, &c, which so often attend fever, are merely different means by which this matter is expelled. The idea of the necessity of a certain Concoction, by which this morbific matter was to be prepared for expulsion, was perhaps the most practically injurious of these theoretical notions; as it led to the practice under the opinion that

the febrile movement is necessary to the concoct-
ing process, of employing means rather to in-
crease than to moderate that movement.
Hence the hot drinks and close confine-
ment, which were at one time so much and
so fatal in the treatment of Small Pox &
other febrile disorders,
(Among the various modifications of the
humoral pathology are those of Boerhaave
& Stahl, The former, though admitting the
influence of chemical changes in the fluids,
ascribed fever not so much to contamina-
tion of the blood as to its greater viscidity,
causing it to stagnate in the capillaries,
thereby producing the cold stage of fevers,
followed by all its train of excessive action,
Stahl, conceiving that fever consisted in a
depraved condition of the blood, imagined

the existence of a superintending rational principle which he denominated (Vis Medicatrix Naturae, & This intelligent principle, according to Stahl, watched over the system with a view to its preservation, and hence fever, instead of being a morbid process, was a salutary effort of nature, under the guidance of this principle, for the elimination of the cause, & This theory necessarily led to an expectant practice, which contented itself with watching the benign efforts of this imaginary principle, and with guarding it against interference by any extraneous influences.

Without further delay, I will proceed to consider the subject as I shall now define it.

& The definition I propose

to give of the medical force of nature is—
The power inherent in organized bodies
and exerted by them for their preservation
in health and restoration from disease.
This definition, though imperfect, will,
I trust, suffice. As thus defined, it
is identical with the principle of life, or
vital principle, as recognized & taught
by physiologists of the present day.
What then is this vital principle—this
wonderful and ever active power, which
equally pervades both animals and veg-
itables—which extends from man to brutes,
from brutes to zoophytes, from zoophytes
to the lowest tribes of the vegetable king-
dom;—This fleeting and evanescent
energy, which, unseen by the eye, unbraced
by the understanding, is only known, like

its great Author, by its effects: When it fails, the vital motions cease, the organs lose their relative connection, the laws of Chemistry which have hitherto been controled by its superior power, assume their action, and the whole system becomes decomposed and resolved into its primary elements,

The Subject is recondite, but deeply interesting; it has occupied the minds of the wisest and best of Mankind in all ages.

Of the many theories promulgated in respect to this subject, the three following chiefly merit attention, Life is the result of a general harmony or consent of action between the different organs of which the vital frame consists,—

Life is a principle inherent in the blood, — Life is a gas, or aura, communicated to the system from without, For the system of harmony, we are indebted to the inventive genius of Aristotenus a celebrated physician of Greece, To this theory there is an objection, If we admit that the absolute health of every part is necessary to the health and perfection of the whole, we are still as much in the dark as ever in regard to the principle by which this harmonious machine is developed and kept in perpetual play, Let us pass on now to a consideration of the second theory, or that which ascribes all life to the blood. This theory has even a greater antiquity

From the preceding, and as it still retains to a degree, much of the credit. It is supported by the writings of Moses; for we read in the culinary section of the Levitical Code (Levit. xvii, 11) that the life of all flesh is the blood thereof,, and, at a more modern epoch, this doctrine was again revived, & sent forth under more favorable auspices. Harvey by his discovery of the circulation of the blood may be considered the discoverer of its importance. Hoffman especially became a convert to the revived doctrine. Huxham not only acknowledged its soundness, but, with an untiring zeal, he traced the vital principle to what he regarded as its particular habitat — the red corpuscles of the blood.
But it was that truly accurate & indefatigable physiologist Mr. Jno Hunter, that placed it upon anything like a rational basis. He proved that the blood not only conveys life to all the

organs of the body; yet that it is alive itself. "The difficulty," says Hunter, "of conceiving that the blood is alive, arises chiefly from its being a fluid and the mind not being accustomed to the idea of a living fluid". He proved, further, that the blood, like the muscular fiber, was capable of being excited and contracted upon the application of stimulus. He showed, that it has the power of resisting the vicissitudes of heat & cold, & of preserving its standard temperature. And finally, that it not only contracts like muscular fibre, but like it is exhausted by repeated stimulation, and that the same stroke of lightning which destroys muscular fiber, & leaves it flaccid & uncontracted, also destroys the blood, & leaves it loose & uncoagulated.

Beautiful & important as these acts really are, they do not explain the subject before us. They prove to the exclusion of every doubt that the blood is alive; but they utterly fail to show us what it is that makes it alive. On the contrary, they rather drive us into a pursuit after a foreign or superadded principle; for that which is at one time alive & at another time dead, cannot be life itself.

The next theory undertakes to explain to us in what this superadded or foreign principle consist. It denominates it an exquisitely subtle gas or aura. An approach to this hypothesis is also of great antiquity; for it was partially developed by Lucretius in his poem on the nature of things. He regarded it as a

aura vitalis, for which in his day there was no name, diffused through every part of the living fabric, & thus explained; —

"Far from all vision this profoundly lurks,
"Through the whole system's utmost depths diffused,
"And lives a ~~soul of~~ e'en the soul itself."

But it is to the deep researches of modern Chemistry alone that we are indebted for the application of this principle in explaining the phenomena of life.

Among the various agents which modern chemistry has detected, there are three which more particularly claim attention in connection with this subject. These are Caloric, or the matter of heat; Oxygen or the vital constituent of the atmosphere; & the Voltaic fluid, which is thought to be nothing more than electricity under a peculiar form.

Of these Caloric as a distinct entity, was developed first, chiefly by the labors of Dr. Crawford & Dr. Black. As it was found to be common in all vital instances—to vary with the degree of vitality—to exist while they live & to vanish when they die—it was considered to be the principle of life itself.

But Oxygen was now, through the labors of Dr. Priestley, introduced as a new agent. Observing the indispensable part it performs in respiration, as well as in various other functions both animal & vegetable, the theory of Caloric fell discredit. It was then considered to be the principle of life & heat its mere attendant or handmaid.

About the year 1790 Prof. Galvani, of Bologna, accidentally discovered that the nerves of a frog's leg, which had been recen

a frog's limbs contracted, & became con-
vulsed on the application of a knife wetted
with water. This impressed and awaited into
mind of Galvani a train of thought as to
the cause of this singular phenomenon. He
discovered by subsequent experiment that
the muscles of other animals, when prepared in
a like manner, would contract under the
same application, not only during life,
but for some time even after death, and he
conceived that in all such cases, a fluid was
transmitted, to the limbs, the contracting
substance. About the same time Prof.
Volta succeeded in proving that the flu-
id thus traced was real electric [illegible].
He also discovered that it might, in
like manner, be obtained by a pair of metal
plates, of two different kinds sep-

[illegible] or wadding, and is accumulated to an immense extent, by a multiplication of the pieces, to produce one of the most powerful agencies in chemistry. I need not pursue the subject further. Everyone in the present day has heard something of the wonders of Galvanism & Electricity. Everyone has heard something of the curious & astonishing effects which the electric fluid is capable of exerting on the muscles of animals even many hours after death. It only remains to be added, that since the discovery of the electric fluid, Oxygen has in its turn, fallen a sacrifice to this extraordinary power, & that this last agent has been contemplated by numerous physiologists as constituting the principle of life itself.

The result of the whole appears to be, that neither physiology nor chemistry, with all the accuracy & rapidity with which these sciences have been cultivated, has been able to arrest or decay the fugitive principle of life, & they have unfolded to us the means by which it is produced & maintained in the animal frame; but they have left us in a total chaos as to the nature of the matter. We behold the beautiful machine before us, & we know something of the mechanism & its various parts, but we know nothing whatever of the peculiar nature of the energy that moves it.

First in my attempt to separate what the God of Nature, com-bined with the inseparable Conjoined; beyond dispute the phrases, Vital principle & Vital force, are calculated to mislead the

for the assumption of a Materia Vitae.

When the [illegible] organ-
ism of the animal kingdom, the chemical
and their substance, the accumulation
[illegible] material of the [illegible] of the [illegible]
[illegible] to a series of actions in which the organ-
ized [illegible] arrangement of [illegible],
This constant round of actions which is
[illegible] by the organism [illegible]
complex [illegible], Light, heat, electricity
[illegible] fully [illegible]
[illegible] promoting the [illegible]
in the [illegible] we [illegible]; it is
contrary to sound induction that life can
be maintained without their co-operation.
Though we cannot say that life is produced
upon the results of these agencies, it is
equally contrary to all experience to find the

manifestations but in their own organized beings. Nevertheless, it cannot be affirmed that organization is the cause of life, nor is it the agency by which the vital actions are produced; and hence the mutual co-operation of organized matter with the forces at work in the inorganic world, is necessary to the development of the vital phenomena.

The term Life, then, may be regarded as denoting nothing more nor less than this, that certain compounds of organized matter do, by their co-operation with physical & chemical forces, manifest a train of phenomena, which are of the same, or of analogous kinds, for all organized beings; that is to say, they manifest the phenomena of life. All organized substances, capable of thus co-operating with

the other natural agencies, are called living.
(2nd) They may not manifest vital action, but are
yet alive as being capable of action when the
necessary stimuli are applied. (2nd) Thus the seed
is alive, though not in action; but, when heat
& moisture are applied, it manifests life.
Hence moisture, heat, light &c are called
<u>Vital Stimuli</u>. Organic matter, on becom-
ing part of a living organism, acquires certain
properties different from what it possessed be-
fore; these are called <u>vital</u> properties.
(2nd) For example, a certain proximate element
is organizable to form muscle; it then acquires
the property of contractility which it [illegible]
[illegible] living life.

@ It is well known that
organized matter ~~[illegible]~~ derives vi-
tal properties from a previously existing

organism. "Thus the egg, while within the body of the mother, acquires vital properties, & will display vital actions as soon as laid, provided the vital stimuli are applied to it. Life is thus transmitted from one living being to another; and if we trace a race upwards through generations innumerable, to the first that existed on the earth, we shall find the true source of vital actions to be in Him in whom we live, & move, & have our being".

20. From the foregoing, we may conclude that the term Life is to be regarded as denoting an ultimate fact in science; and that neither physiological research nor Chemical analysis can ever trace it further; and, that the effort to disconnect it from the material organism, & to resolve it into an independent

principle, is subtile, & has been my object to prove.
Seeing that Analysis is incapable of acquainting us with the nature of this principle, let us next turn our attention to Synthesis. It will be remembered that I stated in a preceding paragraph that this principle, like its great Author, is known only by its effects. These effects are of the deepest interest to both the Physician & the Surgeon. I will now proceed to give a brief sketch of a few of the most characteristic.
In the beginning of this essay, I defined the subject as follows; The power inherent in organized bodies, & exerted by them for their preservation in health & restoration from disease.
This force of nature provides all or-

junized beings, & serves as a line of demarkation between those bodies which it animates, & those of the mineral or inorganic kingdoms. Respecting those bodies in which it costitutes an inherent property, it subserves the same purposes in both the animal & vegetable in design; but modified somewhat in its effects. In the perfect individuals of the former, it seems to emanate from a central organ the heart — in the latter, each limb or branch, when separated from the parent stem, is capable of maintaining an independent existence, if placed under suitable conditions. In the perfect animal, every distinct limb contributes to a perfect whole; the limb of a man has no heart, no lungs, no stomach; but the branch of a tree has

a complete system of organs in itself, & is hence capable in many cases of existing by itself, & producing buds, layers & other kinds of offspring when separated from the trunk. But there are zoophytes whose different units are each fully independent, & are hence equally capable of a separate increase.

Of the workings of this principle as manifested in the animal system, there are none, I presume, more interesting & illustrative than those displayed in the inflammatory process.

Not in its morbid phenomena, but in its healing operations, I propose to consider it. Wounds may be healed without the intervention of inflammation, or its products, but it is under rare & very favorable circumstances that they are thus united.

In almost every instance, whether of a cut finger, of a deep saber wound, or of a fractured limb, it is the resulting inflammation through which the injury is repaired. It is through inflammation that parts are made to adhere, the adhesion of which is indespensible to the preservation of life. If the vitality of a limb be destroyed, either by cold, chemical or mechanical violence, inflammation, if it be not anticipated by the surgeon's knife, will cut off the dead & useless member.

If an abscess form in the liver, or a calculus concrete in the gall bladder; how is the pus or the stone to be got rid of? If they make their way to the external surface of the organ as they always tend to do, they might discharge themselves into the abdomen, & excite fatal peritonitis. But a

natural safeguard arises; partial inflammation precedes & prepares the way for their expulsion; the liver or the gall bladder, as the case may be, becomes adherent to the walls of the abdomen on the one hand or the intestinal canal on the other; & then the surgeon may plunge his lancet into the collection of pus — or, if the surgeon do not interfere, the abscess or the calculus may eat its way out of the body either through the skin or into the peritoneal sac. Inflammation when excited in a part, is frequently kept within narrow limits by a circumscribed wall of coagulable lymph that might by its extension, become fatal.

To elucidate more clearly the conservative effects of inflammation, I will suppose the case of an incised wound. I make a li-

through its subsequent stages or events.

A man receives a deep saber cut in the arm. Now, this wound may unite in the five following ways;— 1st, by the direct growing together of the cut surfaces; 2nd, by scarring; 3d, by the opposed surfaces uniting through the medium of coagulable lymph; 4th, by granulations springing up from the sides & bottom, covering themselves with an epithelial coating; 5th, by the growing together of two granulating surfaces.

In a healthy constitution, & in the absence of all inflammatory action, if the cut surfaces of the wound, after being thoroughly cleansed, are brought in apposition, they may coalesce & grow together in the course of a few hours. Union in this way was called by Hunter, "Union by the

first "intention," though the term is not employed in this acceptation by modern Surgeons, the most of whom apply it to union by adhesive inflammation.

I am aware that some Surgeons of the present day repudiate the idea that wounds can unite without inflammation or its products, Having carefully examined the subject I have seen fit to adopt it, as harmonizing better with what is disclosed by careful observation of actual cases, when the necessary conditions are presented.

If, instead of bringing the severed edges together, the wound be left entirely to the unassisted efforts of nature, blood may coagulate on the surface, forming a scab or air-tight covering, under which heali-

rect adhesion may take place from the bottom & sides of the wound. The absence of inflammation is necessary in healing by scabbing; if inflammatory effusion occur, the scab will be washed away, & not being re-united, an ulcer forms in which it is healed by granulations. This kind of union is very rare in man owing to the readiness with which inflammation is excited; but it is the mode which nature frequently adopts in healing the wounds of the lower animals, as wounds in them do not take on inflammation so readily, & the blood mingling with hair, forms a more permanent & impenetrable covering. This natural process is sometimes imitated by the surgeon, covering wounds by means of lint soaked in collo-

dion, under which direct union may take place.

Union by adhesive inflammation, "Union by the first intention" of modern surgeons, or "primary adhesion," consisting in the effusion of lymph between the opposed surfaces, is more frequently obtained than union by direct adhesion, & is often the main object of the surgeon's care. To secure union in this way, it is requisite that no blood be left between the sides of the incision; hence the surgeon should not interfere till all oozing has ceased. If any blood be interposed, it acts as a barrier to the cohesion of the opposite sides of plastic matter, invariably becoming disintegrated, breaking down & being washed away by the products of the

inflammation which its presence excited.
The surgeon, therefore, should wait two
or three days, or until all oozing has ceased
& coagulable lymph has been thrown out,
before he proceeds to bring the edges together.

For the production & organization
of the lymph, a certain degree of inflam-
mation is indispensably necessary, but
the inflammation must be regulated
in proper limits; If it be too violent,
the adhesive may pass into the suppu-
rative inflammation; and if too
long continued, the development of the
lymph may be interfered with; for though
inflammation be absolutely necessary to
the effusion of lymph, more is requisite
for its subsequent organization & develop-
ment into living tissue.

When union by direct adhesion, or by the adhesive inflammation fails, either by the interposition of blood, by the excitation of undue inflammation, by the wound being left open to the air, or by any other disturbing cause, nature has still another mode by which the wound is healed — this is by granulation, or "Union by the second intention" as it is called by Surgeons. (We do see may often see in the same incised wound one part healed by direct union another part by adhesive inflammation & the remainder by granulations.) This process, or union by the second intention, is beautifully exemplified in the healing of ulcers, A layer of plastic exudation is deposited, which gradually increases in thick-

ness, becoming vascular. It accumulates in masses of pointed & ruddy granulations throwing off pus & effete corpuscles from its surface, & developing in the deeper parts into fibro-cellular tissue, while the more superficial parts undergo epithelial transformation.

But it not unfrequently happens that in the condition of incised wounds such as I have last described, or that for healing by union by the second intention instead of waiting for the slower but far surer efforts of nature, the surgeon may sometimes facilitate the healing process by bringing the granulating surfaces together, & effecting an union by what surgeons call "Secondary adhesion."

It is easy, I think, to perceive that, not only in the

healing of incised wounds, as I have intimated. Doubtless in this [illegible] and in the treatment of all inflammatory diseases the most successful surgeons are those who best understand the modus operandi of nature, & whose object in the treatment of such diseases, is not so much to Cure the disease by virtue of the means they employ, as to aid nature in her work of restoration.

No less interesting & illustrative of the principle under consideration, are the processes adopted by nature for the elimination of a necrosed bone, & the formation of a new one to take its place. To sketch these processes by way of illustrating our subject, we will suppose that the whole thickness of a part of the shaft of the femur dies. In this sketch

I propose to give the subsequent efforts of nature with a view to remedying the evil, I shall consider it in the three following stages;- 1st, in the separation of the dead bone from the surrounding parts;- 2nd, the diminution of the sequestrum;- 3rd, the formation of a new bone.

The part of the bone which is dead, acting as a foreign substance, excites inflammation in the contiguous tissues, by which a true line of demarkation or separation is formed between the bone that is still living & that which has lost its vitality. In this way a groove gradually deepened around the edge of the sequestrum, by the absorption or disintegration of the earthy matter of the living bone, which is carried off by the pus formed in

the course of this process. Along this line of separation, plastic matter is thrown out, from which granulations are formed; these constitute a barrier as it were between the dead & the living bone.

When once the dead bone has been detached by the formation of this line of separation, nature immediately adopts steps for its ultimate removal from the living, there being no instance that it ever undergoes absorption. What is called "insensible exfoliation" is purely mechanical or physical process, & probably goes on in all dead bone that is in contact with fluids, just as it takes place in the ivory pegs used in the treatment of ununited fracture. It is the disintegration of the surface of the dead, together with the absorption of the margin of the living bone, with

formation of the line of separation, that explains the fact that the sequestrum will always be found to be of much smaller size than the cavity in which it is lodged. The dead bone, being detached & loosened in the cavity in which it lies, granulations spring up around it by which it is raised from its bed, & started upon its route through the soft parts to be expelled. Successive layers of plastic matter being thrown up beneath the sequestrum, becoming developed into living tissue, & thereby pushing it further & further from its original seat; whilst, at the same time, the increased pressure upon the soft parts by the onward movement of the bone, causing them to break down & be absorbed — by these means the dead & useless substance is conveyed out of the limb.

The reparative process adopted by nature
for the restoration of the integrity of the bone,
a part of which has necrosed, supersedes the
dead tissue. The new bone usually
forms with a rapidity that keeps pace
with the death & separation of the old bone.

When the whole thickness of the
shaft dies, the reproduction takes place
from various sources, principally from the
periosteum, & perhaps, the medullary mem-
brane, if this be left, which becomes thick-
ened, vascular & detached from the ne
crosed bone. That the periosteum takes
the principal share in the reproduction,
is evident from the fact that wherever it
descends, or has been destroyed, apertures
(foramina) are left in the case of new bone.
When again the soft tissues of the limb

generally, of thick, as in the thigh, contribute to the formation of plastic matter, which gradually ossifies, & so tends to strengthen the new case, & lastly, the articular ends of the old bone throw out sufficient osseous matter to consolidate them as joints to the new shaft.

In the treatment of necrosis, how important it is that the surgeon be thoroughly acquainted with nature's mode of curing the disease! The judicious surgeon, in his treatment during the first stage, will see but little n[illegible] for him to do, except to attend to the general health of the patient, & to direct his efforts to the removal of the causes if present at the time in such

as Scrofula, Syphilis, & exposure to the fumes of phosphorus &c. He will, at the same time, studiously avoid any interference with the process of separating the dead bone, or the formation of the sequestrum, but leave them entirely to nature. The less the surgeon interferes with this part of the process the better, for, as has justly been observed by Weidemeyer, "the boundaries of the necrosis are known only to nature, & the surgeon will most probably either not reach, or pass altogether beyond them".

The foregoing illustrations which I have adduced to show the effects of the *medical force of nature*, are but few when compared with the many which might be collected from a

course of medical study, yet they must suffice, as the narrow limits of a Thesis will not permit me to multiply them. If they fail to demonstrate the nature of the principle before us, they are still Just, not without value as evincing the importance of carefully studying them not by analysis, but by synthesis; for a knowledge of the effects of this principle, must ever form the basis of a rational therapeutics.

In compliance with the Statute of this Institution which requires that each candidate for graduation shall deposit with the Dean of the Faculty, a Thesis of his own composition on some subject connected with medical science, I now, with due deference, submit this Thesis to your impartial examination.

Jno: Y. Holland

December 26th A. D. 1861

An

Inaugural Dissertation

On

The Pneumonia,

Submitted to the examination

Of the

Provost, Regents, & Faculty of Physic,

of

The University of Maryland.

For

The Degree of

Doctor of Medicine,

By

Dunn C. Harris

of

Maryland.

1862.

Gentlemen

Among the statutes of this University, I found one requiring from every candidate for graduation, a thesis, on some subjects connected with medical science. So numerous are the good subjects, thus connected, that it would seem that one could be easily selected. After much thought, I have determined to submit the following on pneumonia to the examination of your Honorable Body, with much respect.

(Path) Pneumonia.

Pneumonia is universally understood to mean inflammation of the parenchyma of the lung. It is a disease of which it is especially true we gain a knowledge of its situation, its extent, and almost every step of its progress by the results. The symptoms which give us the surest information respecting the nature of this disease; that is, either its increase and aggravation on the one hand, or its abatement and diminution on the other, arise out of the changes wrought in the substance of the lung itself. These changes are best disclosed to us by employing the methods of auscultation

and percussion. I deem it best while treating the external phenom-ena of this disease, to depart slightly from the rule of some authors, by giving first the pathological lesions. It is very important fully to understand what those changes are which inflamma-tion of the parenchyma of the lung produces. That we should know the morbid anatomy of pneumonia as an indispensa-ble basis preliminarily of its symptoms; because without a clear conception of this, we can have only a vague idea of the value of many symptoms. In acute pneumonia there are three well marked stages;— 1st, that of inflam-matory engorgement; 2d, that of

hepatization; 3d, that of purulent infiltration.

The first condition is that of engorgement or congestion. The various observers agree, I believe, as to the nature of this condition. The affected portion of the lung is of a deep or dark red color externally, and crepitates less under pressure than the healthy lung. It is less elastic and consequently retains the impression of the finger. When cut it exudes copiously a turbid, bloody, and somewhat frothy serum. Internally we find the diseased portion red. Its specific gravity is greater; and it is more compact, but less tenacious and

...

more easily torn, but notwithstanding its increased density, still it floats on water; there being some air within the smaller bronchi, though they are somewhat obstructed by [illegible]. This condition altogether very much resembles the mechanical congestion caused by the gravitation of blood after death and the close of life; but the color is commonly of a lighter red and the softening greater. The cohesion being diminished it is more easily torn; in that particular resembling more the spleen — hence the appellation of splenization as applied to the lung in this stage of inflammation.

The position of the congestion will sometimes assist in forming, after death, a correct judgment, for mechanically it must occupy that part of the lung which is most depending about the time death supervenes, which is not the case necessarily when vital. We are not to infer that the individual died of pneumonia whenever we find an accumulation of blood, in the posterior part of the lung or that part which has been undermost during the hours just preceding or just following death, there is almost always some degree of mechanical congestion. The two forms of engorgement can scarcely be distinguished from each other by the anatomic-

cal characters alone. At one time
Andral indeed held; that if the
engorged part was more friable,
more easily torn; or more readily bro-
ken down under pressure than natu-
ral, that was enough evidence of its
inflammation; but we are inform-
ed that he afterwards saw reason
to think differently. An opinion
can sometimes be formed of the
situation of the engorgement: if it
be not in a depending position it is
certainly inflammatory. We judge
also by the antecedent symptoms.
If the disease in this stage be arrested
the lung returns to a healthy condi-
tion; but if not it passes to a stage present-

to be described. Dr. Stokes maintains that the congestive stage is preceded by another, marked by intense arterial injection with dryness; in other words, a condition of irritation which as taught by Dr. G. B. Wood, always precedes inflammation.

The second stage is next to be described. If the inflammation continue, the lung undergoes a further change and exhibits the following characters. This condition, or stage of hepatization, named by Laennec red hepatization and by Andral red softening, is characterized by a deep red, reddish brown, or purplish red color; the crepitation is

no longer heard under pressure; the density of the diseased part is so much increased, that it will sink in water. Though, I think, it is likely that sometimes, when a part only of the lung is diseased, the undivided lung would float because of the air contained within the more healthy portion; and the cohesion is diminished still more than in the first stage. Its cut surface presents sometimes, a uniform red appearance, at times a slightly variegated or mottled appearance, which is owing to an intermixture of specks of black matter of the lung, and to the injection of the interlobular areolar tissue, which is often congest-

ed and more than naturally obvious to the sight, but the organ has lost its spongy character; it is evidently solid, and the cut surface bears a striking resemblance to the cut surface of the liver. From this resemblance, I have no doubt, Laennec and after him most other pathologists, have applied to this disordered condition, the term hepatization. When freshly incised and pressed between the fingers it exudes some redish fluid, which is thicker, less frothy, and not in so large quantity as observed under similar circumstances in the congestive stage. If the surface be gently scraped

with a scalpel, in the 2nd period so described may be often perceived some broken and more yellow matter,—the first indication of commencing suppuration, the hepatized lung is denser and more friable than before. It is more easily crushed and broken, this follows from the softening of the areolar tissue by which the component parts are held together. the lung is so much softened, that it may be easily torn, or the finger passed through the parenchyma with no great resistance, the softening is greater in proportion as the inflammation has been more acute and recent.

When the cut surface of a hepatized lung is examined with a magnifying glass, it generally exhibits an appearance resembling a mass of small, red granulations, lying close to each other. These are considered by our best authors to be the air cells, thickened, clogged up, and made red by inflammation. As the lung [illegible] in the stage of inflammation, it follows that if the entire organ be involved by the disease, it will not fall or collapse when the thorax is punctured or laid open to the atmospheric pressure, but will therefore, appear to become increased in size quite different from what would [illegible] in health.

On the surface of the lung, the marks of the ribs are often seen. In this condition the texture of the lung is occasionally so rotten that only slight pressure between the fingers suffices to reduce it to a state of pulp; and this diminution of consistence, we are informed, made Andral quarrel with the term hepatization. He proposed red softening, ramollissement rouge, as the name for this stage of pneumonia.

The third stage of the process, the inflammation in the lung, is known by the term "purulent infiltration." In it the pulmonary tissue, dense, solid, and impervious to air as in the second stage, changes in [illegible] exhibiting a redish, yellow, strawy

staw, drab, or stone, color, or it presents a grayish hue, sometimes mottled with red or black pulmonary matter. The red granulations of the 2d stage seen on the torn surface, are no longer red but become whitish or gray, and the texture of the lung is still more friable and rotten than before. In fact it is full of a yellowish or opake purulent matter, which is not unfrequently so abundant that, when an incision is made into the lung, it oozes out copiously. It is sometimes tinged with blood. The pulmonary texture is so much softer than in the last stage, that if pressed between the fingers it is resolved into a yellowish pulp; almost exactly like fluid its

with only shreds of the solid tissue remaining. Slight violence in examining or handling it, the finger may be pushed into the parenchyma of the lung, thus producing a cavity, which soon fills with pus, and which might easily be mistaken for a recently formed abscess. This third stage of the pulmonary inflammation, Laennec has called purulent infiltration, or purulent infiltration, Andral has denominated it grey softening ramollissement gris. "In fact" says another author "it consists in diffused suppuration of the pulmonary tissue." A very remarkable fact has been brought to light, by the researches of [illegible] [illegible], that inflammation of the lung

going on to suppuration, does not lead to the formation of innumerable abscesses as it does when it affects the areolar or parenchymatous tissue in other parts of the body. The abscess of the lungs used to be spoken of as a very common occurrence; but it is now known to be a very rare thing. During a space of more than twenty years, having made several hundred dissections on persons dead of pneumonia, and [illegible] only met with the formation [illegible] five or [illegible] [illegible]. [illegible] abscess of pneumonia, [illegible] has been [illegible] have already formed, sometimes few may be found in the lung, in connection

with inflammation of the veins.

Gangrene does sometimes occur, though it is a rare result of ordinary pneumonia. It and the formation of abscesses, are almost equally uncommon. It is certain that gangrene is [illegible] and then observed as a consequence of acute [illegible] It is [illegible] as a [illegible]itive and independent affection, [illegible] Laennec and most modern pathologists, recognize two varieties; in one of which, the disease occupies a larger portion of the lung, and is without [illegible]

marked outline. The former is called diffused, the latter circumscribed gangrene. The diffused is the more uncommon, occurring in only six out of eighty cases collected from various sources by Mr. Lawrence. In

very extensive sometimes. In either case this variety of it is distinguished by having a definite boundary. The part which has thus perished, is of a dark, [illegible] greenish [illegible] color. The gangrene is [illegible] sometimes the consistence of the [illegible]; [illegible] different; its odour is most abominably and horribly offensive.

Having discussed the pathological lesions of the [illegible] stages, usually noticed as occurring separately and distinctly, (though [illegible] are [illegible]) followed by a [illegible] notice of abscess and gangrene, which result from acute inflam-

mation of the lung, so seldom, that I have not described them as filling [illegible] any particular stage; having done this I say, I may now very properly give a moments thought to some other points connected with and learned from, investigating the morbid anatomy of pneumonia; In every humain being, we find two lungs just as we find two eyes or two tonsils; and in one case as in the other, inflammation may take place either in one or both organs at once. [illegible] may be either [illegible] double. Again it may be [illegible]

inflammation affecting a part of one lung or all of it at the same time; but it does not affect parts of both sides indifferently or promiscuously. The [illegible] place it is, (though the reason is not given) more common on the right, than on the left side of the body. At La Charité, [illegible] hundred and fifty cases of pneumonia were admitted, in thirty eight the right side was affected exclusively, the left alone only in thirty eight, both at once in seventeen, and in six the situation was not ascertained. M. Grisolle collected from various authors 1430 cases, from a comparison of these, the cases of double pneumonia were about 18 per cent, those of the right lung [illegible] per cent, and those of

the right lung about 52 per cent of the whole number

Again, there are remarkable differences with regard to the part of the lung most liable to inflammation. [illegible] Dr. Watson and Prof. S. Chew insist that in respect to the diagnosis in some cases, that it is an important, and that it should be well remembered, that the lower lobes are more liable to active idiopathic inflammation than the upper; though the latter [illegible] as the first. Andral found in 88 cases of pneumonia, the lower lobe inflamed in 77, the upper lobe in 80, and the whole lung at once in eleven cases.

[illegible] inflammation of the bronchi accompanies the inflammation of the [illegible] both the lungs and [illegible] all branches of the bronchi, the mucous membrane exhibits a red color; and when a single lobe is inflamed [illegible] amount of bronchitis is perhaps never [illegible] the disease "Pleuropneumonia."

However pneumonia may and sometimes does occur without any concurrent pleurisy.

There are two varieties of pneumonia peculiar to children — Lobar and [illegible]. The first usually occurring in children [illegible] the ages of six and sixteen; while the latter, it seldom found in any except those under six years of age. Lobar pneumonia resembles very much in its [illegible] characters the pneumonia of adults, such as I have pathologically [illegible] on the [illegible] pages. The lobular pneumonia is comparatively rare in adults. In it the inflam-

[illegible] may [illegible] [illegible] spots
[illegible] by healthy tissue, and
these little islands of inflammation
may be found in one lobe or in
several; or their boundary may not be precis-
ely fixed, the inflammation [illegible]
[illegible] into the surrounding parenchy-
ma, or finally as in the common
form of [illegible], they may be
together so as to form [illegible] continuous [illegible]
of inflammation. The first is
[illegible] of these three forms;
they are occasionally all three
found in the same patient.
These spots are greatly diversified
in size, position, form, and [illegible]
[illegible]. These with definite boundaries

may vary in magnitude from a millet seed to that of an egg. They usually occupy the inferior and posterior part of the lung. There may be thirty or more in the same lung; they commonly present the three stages of pneumonia; that of congestion, hepatization, and suppuration. Vesicular pneumonia is a term applied by some to the variety of pneumonia, in which the inflammation appears to be confined to the air cells, and perhaps to some portions of the communicating bronchial tubes, without extending to the intervening cellular tissue. When the lung is cut, small gray

or yellowish granules [illegible] bear no inconsiderable resemblence to miliary tubercles, from which they are and like them disseminated, but distinguished by their want of hardness and by exuding a drop of pus, and collapsing when cut.

Typhoid Pneumonia and Chronic Pneumonia are terms often found in many writers to two diseased conditions which differ so little more than what their respective names imply from those which I have just been describing, that simply mentioning them is I deem sufficient.

The symptoms of

pneumonia are numerous, and may very properly be now described. The signals of inflammation within the thorax, we can not well observe with our eyes, yet we are enabled to ascertain the fact with percision. It is usually ushered in with a chill followed by febrile reaction, difficult or hurried respiration, cough and severe pain in the side or back part of the chest. The fever and local symptoms occur sometimes without an antecedent chill especially in children and occasionally the local symptoms precede, for a short time, the general. The characteristic symptoms may sometimes be

preceded for some days by general uneasiness, lassitude, loss of appetite and more or less fever, and, not unfrequently, catarrhal symptoms are observed several days before the signs of pneumonia become manifest.

In secondary pneumonia the disease often begins obscurely without cough, pain, or fever, unless this has previously existed, and is recognized only by hurried breathing, depression of strength together with the physical signs. It usually attacks debilitated persons who have become enfeebled by disease or age. When pneumonia is latent it is not unfrequently complicated with some other disease and often with cerebral disease.

Pneumonia is characterized in most cases, when fully developed, by fever, hurried respiration, cough pain in the chest, and scanty rapid expectoration often mixed with blood. It is necessary to dilate a reach of these symptoms as they are liable to many diversities.

The pain may either accompany, precede or follow the beginning of the fever. At first it is often very acute and severe, is much increased by a full breath, pressure between the ribs, or cough. It is felt in either the mammary region, the side or the back part of the chest. If both lungs are inflamed it may

be felt on both sides and occasionally it is referred to the region of the sternum. The sharp pain is probably owing to the participation of the pleura, covering the affected portion of the lung, in the inflammation. Effusion often subdues the sharp pain soon to have only an obscure pain remaining. In some instances the patients only complain of a dull or aching sensation in the [illegible], [illegible], situated in either the epigastric region or in some one or another part of the chest. Sometimes a deep inspiration or percussion, will evolve pain which would be otherwise latent.

Occasionally no uneasiness whatever is felt calculated to excite suspicion.

The breathing is always more rapid. The average number of respirations — fifteen or twenty, may be increased to thirty or even sixty per minute. The dyspnoea is occasionally so great as to render the recumbent position intolerable to the patient, and his speaking difficult, even in the erect position. The inflammation of the lower lobe is said to be attended with less of it than the upper. It is usually in proportion to the extent of the inflammation. A purpurid color of the face, a livid

dyspnoea, indicates great danger.
Cough has no particular character in pneumonia, and, consequently, affords very little information. It does not usually occur in paroxysms. Its severity and frequency are not always in proportion to the intensity and extent of the inflammation. It is usually dry at first though in a few hours it is accompanied by an expectoration of peculiar sputa which is among the most certain signs of pneumonia. This sputa being a symptom which any one can recognize needs discription. In the outset of the uncomplicated disease, the expectoration, if any there be, is slightly mucous. Soon, in a day or two a viscid

semitransparent matter is spat up: it is at first, or very soon becomes stained with blood; presenting a reddish or rusty color, sometimes inclining to yellow or green, according to the quantity of blood present. This expectoration is not streaked with blood, as happens in bronchitis nor is it the unmixed blood of haemoptysis; but the blood and mucus are intimately commingled together, forming a homogeneous mass. As the disease advances, these qualities become more and more striking. So long as this mass flows readily along the vessel when tilted, so long have we reason to hope that the pulmona-

ry inflammation has not left its first stage. But the sputa often acquires an extraordinary degree of viscidity, not separating themselves from the vessel even when it is inverted and shaken. When this happens we are obliged to fear that the pneumonia has reached its second stage. The pneumonia is then at its acme, the expectoration remains for some time stationary. If the inflammation and the expectoration become less tenacious and at the same more and more like mere catarrhal sputa. But if the disease goes on from bad to worse, then the rusty colored sputa may continue to the end: though it

is commonly diffi[illegible] or [illegible] [illegible] [illegible]
expectorated; either on account of its ex
treme tenacity or the patients inability
to expectorate. In some instances of
the advanced stage of the disease, it
has the consistency of gum water & of
a brownish red color. When this oc
curs Andral says that he announces
the presence of the third stage of
pneumonia. Again sometimes, in
this third stage, very perfect pus is
excreted. When pneumonia passes
into gangrene, the sputa are of a
greenish or reddish or dirty red color; [illegible]
more liquid and exhales a fetid
smell. So again the puriform expec
toration from a circumscribed abscess is

horribly offensive

Fever is almost invariably present in severe cases; in some instances it constitutes with hurried breathing the only obvious affection. In type it varies extremely being sometimes in the highest degree of intensity and at other times almost escaping notice. Flushed cheeks often attend it; also headache, especially pain above the brows or in the forehead, from which the patient may suffer more than from the pain in chest. It may be the only complaint, during the first few days

The fever is often remittent; the exacerbations occurring commonly every evening, accompanied with cough, [illegible]

noea, pain, and bloody expectoration

The pulse is commonly full and strong and only moderately accelerated; though sometimes in the adult it reaches one hundred and forty. The blood drawn by phlebotomy is not unfrequently strongly cupped and almost always buffued. Delirium very often occurs; and it is a bad omen indicating a difficient oxygenation of the blood, which is exerting its poisonous effected upon the brain.

The skin is occasionally moist, though it is usually hot and dry. The tongue is commonly moist and coated with a white or yellowish white fur; yet it is sometimes clawing or

dry and red. Thirst and loss of ap
petite are almost universal. The urine
is scanty and high colored; the salt
is frequently [illegible]. The [illegible]
[illegible]
[illegible] Dr. [illegible], of that
[illegible]
[illegible]
[illegible] It consists of
a deposition on the teeth just along
the margin of the gums, of a [illegible]
[illegible]
[illegible]
[illegible]
an inch in width, of a deeper tint
at the gums and paler as it recedes";
unlike either the blue line in lead

poisoning; or that of a deeperishade than the rest of the gum, noticed by Dr. [illegible]

The decubitus, to speak technically, is generally dorsal, though sometimes the patient will lie on the affected side

The principal signs I have just described seriatim; and these are of the highest importance in the diagnosis of pneumonia; yet in many cases prior to the introduction of auscultation and percussion, the disease ran its whole course quite unsuspected. The insti-tution of this method having added so much to the medical science in diagnosing many diseases and none more

than pneumonia; then, I think, an essay on this disease would be far from complete without at least a passing notice of this diagnostic method. Some may think it strange that so much knowledge, of the inflammation within the thorax, can be obtained by simply applying the ear either directly or indirectly to the chest. But when an individual's ear has been properly educated to auscultate he will at once see its great value. If the ear be applied to the chest, ~~a f[illegible]~~ a peculiar kind of crackling sound will be heard when the lung adjacent to that portion of the thorax is in the first

stage of inflammation. This sound has been denominated by various authors, "minute crepitation," "fine crepitation," "[illegible] of pneumonia" and "crepitant rhonchus."

This crepitant rhonchus is believed to proceed from the very smallest ramifications of the bronchi and from the air vessels themselves. When this sound increases so as to predominate or entirely mask the respiratory murmur, that infallibly denotes the advance to the second stage of pneumonia. The first has been compared to the sound produced by rubbing one hair between the finger and thumb, while the latter—that of the second stage is a whiffling sound, like

that produced by blowing through a quill, and is termed bronchial respiration. This is what the listener hears when the patient breathes, if the lung be hepatized; and if he speaks his voice is much more resonant than natural, more resonant than on a corresponding spot on the opposite side of the chest. Bronchial voice - Bronchophony is therefore another symptom of the second stage. In the hepatized lung, the air only enters the larger branches of the bronchi, both in respiring as usually [illegible] during percussion. [illegible] increased respiration is heard in either or both the healthy portion of the diseased lung as in the healthy one. In the third stage we present a peculiar [illegible] crepitating

rhonchus is heard in some parts at first, then in the whole of the affected portion. Should an abscess have formed and opened into the bronchia a gurgling rale when the cavity contains fluid but if it [illegible] pty pectoriloquy with cavernous respiration will be diagnostic. Thus it is seen that pneumonia is traced, after being diagnosed, from the first into the second stage and then into the third though it is often difficult to determine whether it is the second or third stage of the disease. I have described these symptoms separately but many of them will be observed occurring together and also may the three stages of pneumonia.

From what we have seen all will

agree that pneumonia suddenly and exceeding weakens the patient. It may be complicated with pleurisy, bronchitis pericarditis or accompanied by Bright's disease. It may occur with the symptoms of hooping cough, measles, typhus fever or small pox. It is caused by exposure to sudden and extreme vicissitudes of the weather, extreme [illegible], affections of the heart, inhaling of irritating substances. Some persons seem predisposed to it. Pneumonia occurs most frequent towards the end of winter and in the spring. It attacks persons of all ages, though it is oftenest met with in patients about or a little after the middle period of life. The prognosis is favorable or unfavorable as the

patient is strong or weak; as the disease is in its incipiency or far advanced and rapidly spread; as it is properly or improperly treated. It is most apt to terminate fatally in patients of a scrofulous diathesis, and mostly commonly so in hospital practice. The critical days are about the tenth or fourteenth.

The treatment of this disease is of greater importance nor a proper discrimination in the treatment more demand than that for pneumonia. Remedies which are salutary, and even essential for one patient would be injurious or even fatal for some others under different circumstances. Various authors have from time to time, strongly recommended

[illegible] drugs as remedies. I shall notice some of those which able authors of the present day, think the best. If the patient be plethoric, with pulse strong and frequent, bleeding [illegible] [illegible] may be employed in the first stage. Sometimes when hepatization has commenced it will do good by lessening the quantity of blood to be arterialized, relieving the dyspnoea, and by preventing the inflammation from spreading. In many cases the disease can be cured without it, and in the patient [illegible] it [illegible] dangerous [illegible]. In the third stage the patient's strength [illegible] [illegible] [illegible].

An aperient should be administered in the outset of the disease, after which, the bowels should be unloaded at least once a day;

and the other secretions should be kept regular.
If the alimentary canal be not inflamed a brisk
emetic is one of the best remedies especially in the in-
cipiency of the disease. It may be given, at first, in one
third of a grain doses gradually increased to two grains each
by the expiration of the first twenty four hours. Each
dose may be given in a half wine glass of water every
hour; a few drops of tincture of opii, may be added
if emesis be reduced. Epicacuanha is often, nearly
as valuable without irritating the inflamed prima
viae. Mercurialization in a moderate degree, is al-
most indispensable when hepatization has commenced.
Counter irritants are frequently very beneficial. To re-
lieve pain or prevent diarrhea opium must be admin-
istered. The diet should be antiphlogistic in the
beginning of the disease but rather stimulating
as given is sometimes indicated in the latter, low,
or typhoid conditions; or during convalescence.

If placing the patient on the healthy side does not cause too much dyspnoea, gravitation will assist in diminishing the congestion.

The pathology, complication, varieties, diagnosis, prognosis, causes, symptoms, critical days, the age of the patient and the season of the year at which its attacks is most frequent together with the treatment of pneumonia I have (it may been seen) this partially noticed and doubtless with many errors, for which I must beg indulgence. I tender my sincere thanks to each Pr. in the Faculty for their many labors and acts of kindness, specially do I profess gratitude to my private Preceptor Prof. N. R. Smith who, with his deep medical lore has labored assiduously both by day and by night to instruct me: and it will ever afford me exquisite pleasure to recognize the University of Maryland as my Alma Mater.

A

Clinical Report of Cases

Submitted to the Examination

of the

Provost Regents and Faculty

of Physic of the

University of Maryland

for

The Degree of Doctor

of Medicine by

Ovid. M. Johnston

of

Pennsylvania

Feb 10th 1862

Case 1

Michael Doran. Age: 26 Years.
Occupation. a Labourer. entered
the Infirmary on the 8th of June
Labouring under a diseased
condition of the left Eye. Consequent
upon an injury. The Eye
had been injured by Splinters
of Iron. intense inflamation
took place. in which all
the coats of the Eye were
involved. and pus formed
in the anterior chamber. By the
patient holding his head to
one side. the matter could be
distinctly seen flowing to that
side of his eye. There was
also an ulcer on the Cornea.
The patient received the
injury four days before he
entered the Infirmary.
For promoting absorption of

the puriform matter, and re-
-ducing the inflamation.
A blister was ordered behind
his left ear and the eye
bathed with the watery
solution of opium. also
R - Pulv opii - gr ¼
Mass Hydrarg - grs v
To be given three times a day
R - Argenti nitras - grs ij
Aqua — ℥i
A few drops of this solution
was droped in his eye once
a day. For keeping the edges
of his eyelids from adhering
together at night.
R - Hydrarg. oxidum rub ʒi
Cerate Simplex. ℥iij
was applied to them
June 8th. Another blister was
ordered behind his left
ear.

10th. The solution of Nitrate of Silver was discontinued.

℞ - Zinci Sulph - grs iij
aqua - ℥j

A few drops of this is to be droped in the eye once a day. Drop the blistered surface with savine ointment. The inflamation of the eye has nearly all subsided and the pus in the anterior chamber is gradually becoming absorbed away. As his bowles are rather torpid, he was ordered

℞ - Pulv aloes
Pulv Rhei
Pulv Colocynth āā grs iij

To be given at once. As there is stile some conjunctivetes.

℞ Argenti nitrates - grs v
aqua ℥j

S. Drop in his eye once a day.

14th For promoting dilatation of the pupil.

℞ Ung Belladonna
Ung Stramonium āā ℥ß

This was applied around the Eye, as his gums are getting sore. only one pill (of opium & Blue mass) was given a day.

16th ℞ Vin Colchici gtt xx
To be given three times a day.
As the patient was stout and robust and of a Rheumatic habit; the Doctor ordered the above. another blister was ordered behind his left ear.

18th & 19th, Stop the Belladonna and apply another blister behind his ear. Give the wine of colchicum four times a day.

20th The patient's Eye is doing very well. the inflamation has all subsided; and the pus in the anterior chamber is all absorbed. The ulcer on on the cornea is healed.
Ordered. R. Ext. Belladonna-
Ung. Stramonii-aa Bss
To be applied around the Eye.
The patient left the house in a week. entirely relieved, except with slight opacity of the cornea.

Case II

James Smears entered the Infirmary. on the 23rd of March; suffering with Pneumonia. Four days had elapsed, and he had passed from the stage of congestion, to that of exudation. He was taken with a chill.

followed had a cough, and pain in both sides, the most pain in his right side, on which side there was dulness on percussion. Bronchial respiration and bronchopony were also developed. Pulse small and weak, and expectoration viscid and rusty. He was ordered

R – Hydrarg. Sub. Mur. Grs vj
Pulv Ipecac Comp. Grs xii

M.ft. Pulv vj. One every two hours. Brown's mixture was ordered without the Laudanum for his cough, and six cups to be applied to his chest. also take liquid food. March 25th Small crepitation well developed to day. Still has some pain in his chest. A blister over the seat of pain was ordered, and Brown's mixture

without the landman to be continued.
March 26th. As his pulse is
weak. One grain of Quinine
was ordered to be taken every
three hours.
March 28th. Respiration natural.
Stop powders of Calomel, and
give beer with his meals.
March 29th. He was ordered to
day R - Rad Serpentaria - ℥j
Boiling water. oj
Wineglassful of this, every four
hours with his Quinine.
April 2nd. As he complained of
headache the Quinine was
stopped and serpentaria
continued.
April 4th. Complains of some pain
in his right side and cough.
A blister was ordered over the
seat of pain, and Brown's Mixture
without the landman.

Also to right R. Pulv. Ipecac Comp. gs viij
Hydrarg. Sub. Mur. gs iij
April 5th. R. Iodide Pottassium - gs iij
S. Three times a day. The patient left the house well; on the 12th of April.

Case III

Mary Manaham. Age 35 years entered the Infirmary on the 25th of March, laboring under ~~Sajmtems~~ of sciatica, She complains of pain in her right leg, extending down the limb, and running along the course of the sciatic nerve, The patient has no fever, She is rather small in frame and delicate. Half of a grain of Sulphate of Morphia was ordered to be

injected underneath the cellular tissue, where there is severe pain. This is peformed with a small syringe. designed especially for that purpose. and

℞ - Sul Quinine grs xxiv
Ext Opii grs ij
Pulv Strychnia gr j

M. f t Pill xij. One three times a day before meals. also give in the morning -

℞ - Sulp Magnes - ℥ß
Calc Magnes - ℥j

March 26 Half a grain of Sulphate of Morphia was ordered to be used as above morning and evening.
March 27th. The Morphia was ordered to be continued.
March 28th & 30th. The Morphia was ordered to be used

as before stated.

April 1st. The patient is suffering from debility. all the other symptoms relieved. She was ordered R - Sulph Quinnia - grs i
Pulv Ferri grs iij
To be taken three times a day

April 2nd. She was directed to take beer with her meals and ten grains of Dovers Powder at night as she does not rest well.

April 3rd. The patient is getting better though she is a little weak

April 8th She complains of pain in right limb to day Ordered half grain of Sulphate Morphia to be injected underneath the cellular tissue where there is severe pain and

R - Pulv Valerian
Sulph Quinnia aa grs iij

To be given three times a day
April 16th Continue medicines
all except Sub Cutaneous injection
The patient left the house
entirely relieved on the 13th of April.

Case IV

Thomas Sulivan. native of
Ireland. by occupation. a
Laborer entered the Infirmary
on the 24th of March. Suffering
with Erysipelas of the face
and Scalp. There was much
oedema of the face. and
the patient also had Delerium
Tremens. Doctor Warren the
attending Physician, being
in the Infirmary. when
the patient was brought in.
saw him immediately,
and ordered the parts
to be cleansed with

castile soap and water,
and afterwards apply -
R - Sul Ferri - ℥i
Cerate Simplex ℥i
also R - Arnod. Hoffman
Sr. Murrias Ferri āā ℥ß
S. Teaspoonful every three hours
in a wine glass of water.
March 25th. As the patient was
delerious to day. Sub cutaneous
injection of Morphia was used
and brandy given.
March 26th If delerium become
to violent. use subcutaneous
injection of morphia. also
give R - Sr. Murias Ferri - gtt xx
Hoffmans Arnod - ℥i
S. Every three hours.
March 28th. Patient is improving
R - Sr. Mur. Ferri - gtt xxx
Huxams Sr Bark - ℥i
S. Three times a day.

March 29th. The patient is greatly improved, especially in appearance. The eruption on the face has all disappeared and also the oedema, as there is some oedematous condition of the fauces. He was ordered ℞ - Tannic Acid - grs xx
Tr. Myrrh - ℨß
Tr Capsicum - ℨij
Aqua - ℥viij
To be used as a gargle three times a day.

April 5th. The patient feeling unwell to day, he was ordered ℞ - Sulph. Magnes - ℥j
Bi Tart. Pot - ℨij
To be given at once. The Tinct Mur Ferri was stoped and Huxhams Tr Bark continued. The patient left the house entirely relieved.

Case V

Celia Connelly. Age 32 years. A case in which the menstrual had been suspended and afterwards there was a too speedy disappearance of it. Exposure to cold was the cause of it. There was great pain in the lumbar region: nervous derangement and she also had a slight cough. She entered the Infirmary on the 21st of March. Cups were ordered to be applied over the lumbar region: followed by a belladonna plaster and poultice.

℞ Cort valerian - ℥j
Aqua Ebula ℥j
Bi Sart. Pot. ℥ß

S. A. wineglassful three times a day.

March 22nd Examined the chest and found Bronchial irritation &c &c. She was ordered R — Pulv Aloes - grs x
Ext Colocynth grs ij
To be given at once.
March 23rd, She complains still of pain in her back. Ordered to use, warm hip bath. 96° Lahi ten grains of Dovers powder at night, as she does not rest well and Browns mixture through the day. The other medicines were discontinued.
March 26th. Case improved; but a little weak and nervous. for which she was ordered
R — Pulv. Ferri
Pulv Aloes āā grs xx
Pulv Aromat grs x
M. f. l. Pile xx ♁. One three times a day.

R - Tr. Valerian - ʒi
Tr Opii - gtt xx m
To be given at night. also apply warm poultice to the Abdomen.
March 27th Patient does not rest well at night.
R - Syr. Iodide Ferri - gtt xxx
S. To be given three tems a day. also. R - Gum assafoetida - gr ij
Sulph. Morphia - gr 1/3
S. At night
March 28th & 29th. The Patient is doing very well, Medicines were ordered to be continued and Seidlitz powder to be given as an aperient. She left the house perfectly well on the 5th of April.

Case VI

Charles Hubbal age 38 years entered the Infirmary on the 8th of November, laboring under orchitis. The patient was, by occupation, a laborer. He stated that he had gonnorrhoe. and that the discharge was stopped rather suddenly. after which swelling of the testis. came on. He was ordered

R - Mass Hydrarg gr 1

To be given three times a day. and R - Plumbi acetas - ʒi

aqua ~ ʒi

To be applied to the scrotum Saline aperients were also ordered to be given every third day. November 12th. As the patient had been taking a great deal of mercury for Syphilis and had been laboring under

symtems from the ill effects
of that medicine, it was ordered
to be discontinued. and

R – Iodide Pottassium. gs v
To be given three times a day.
November 13th. There is not ~~so~~
much swelling or inflamation
of the parts to day. the case
is improving. The patient left
the Infirmary on the 22nd of
November entirely relieved.

syntems from the ill effects
of that medicine, it was ordered
to be discontinued. and

R – Iodide Pottassium gs v
To be given three times a day.
November 13th. There is not ~~so~~
much swelling or inflamation
of the parts to day. the case
is improving. The patient left
the Infirmary on the 22nd of
November. entirely relieved.

An

Inaugural Dissertation

on

Influenza an Epidemic Catarrh

Submitted to the Examination

of the

Provost, Regents and Faculty of Physic

of the

University of Maryland

for the

Degree of Doctor of Medicine.

by

Edward H. Myers

of

Pennsylvania.

1862.

Influenza.
or
Epidemic Catarrh.

Of all the known epidemics, the [illegible] [illegible] [illegible] [illegible] [illegible] has spread most quickly and to the greatest extent. In all its various visitations it has either occurred simultaneously over a whole continent, or has spread with an amazing rapidity from one country to another, until the greater portion of the inhabited globe is included in its circuit. Passing the widest seas, it has attacked the inhabitants of opposite

continents, who had not the slight-
est intercourse with each other. Its
effects have also been traced at sea
as well as upon land. At the same
time that the inhabitants of the
country from which he has sai-
led, or to which he is destined
are attacked with the disease, the sai-
lor in the midst of the ocean the
sands of miles from any shore, [illegible]
its influence.

In its several visitations in this
country the epidemic has generally
made its appearance in one of the
eastern States and has [illegible]
ward along the sea board with
more or less rapidity. [illegible]
ever, it appears to have shewn

itself first in New York, spreading thence, as from a centre in [illegible].

It has received [illegible] nearly the whole of Europe [illegible] of twenty different times between the years 1510 and 1826. In America, it is known to have occurred as early as 1674 and it has appeared in New England in June of the succeeding year.

Although influenza, like the catarrhal affections, has occurred most frequently towards the end of autumn, during the winter or in Spring, some of its visitations have nevertheless happened during midsummer.

Its ordinary course has been from north to south, though occasionally it has spread from east to west and vice versa. Its continuance in one place has varied from a few weeks to several months. It has been said that the same individual is not liable to be twice attacked with it during the same epidemic; this however is incorrect as we have known in many instances a decided attack to recur.

In regard to the precise nature of the cause by which influenza is caused and propagated, there exists much obscurity. Its features have elicited a very great deal of attention from the first

of medical science of the [illegible]
sent period; the phenomena by which
they are preceded and accompanied,
have been noted with more or less
care and minuteness; the laws which
govern their rise and extension are
by many supposed to be accurately
ascertained, but into their efficient
cause no one has at yet been able
to penetrate. The influence of the
moon and the other planets has
been referred to as explanatory of
their production by some; meteoric
causes and terrestrial exhalations
by others; electricity by a third
while fourth, and a large class
believe them all to be dependent
upon some acute change in the

There are few epidemics which [illegible] as the influenza. The same general cause which gives rise to the disease, would seem to be all that is required either to predispose the system to its occurrence or to excite it into action. The [illegible] an attack.

As the influenza is [illegible] inflammatory [illegible] increases the [illegible] drinks, has a tendency to augment

[illegible] an abstemious course [illegible]

[illegible]

Wet feet, sitting exposed to cold air, sleeping in damp beds [illegible] from dancing, or from the heat [illegible] causes which augment the [illegible] of an attack of influenza [illegible]

The influenza consist in an inflammatory [illegible] lining membrane of the cavities which [illegible]

with it, seated within the bone above the eyes, on each side of the forehead, the internal [illegible] of the eye, the [illegible] throat, and the parts which are then situated, and of the lining membrane of the [illegible] of the wind pipe. The inflamma-tion is not, however, so [illegible] as thus extensively [illegible] case of catarrh. It is more con-fined to the membrane lining the nose and frontal cells, and that of the eyes, and [illegible] exclusively [illegible] to the throat and [illegible] to the [illegible] and its branches.

In the [illegible]

ed by a sense of dryness, fulness, and heat in the nostrils, with frequent sneezing, a dull deep seated pain in the forehead, redness and weeping of the [illegible] and [illegible] of [illegible] alternating with slight chills; all of which symptoms increase towards evening; subsequently there takes place an increased discharge from the nostrils, at first of a clear watery fluid, which [illegible] takes the parts over which it passes, but becoming, as the disease declines less in quantity, thicker and of a white yellowish and opaque appearance.

When the disease is chiefly seated in the throat, the [illegible]

symptoms are pain, and a sense of dryness and fulness in the part, frequent hawking attended with the discharge of a small portion of frothy mucus, difficulty, or pain in swallowing, hoarseness of the voice and a slight cough, and in more violent cases, difficulty of breathing and sense of suffocation. Any of the stages of this disease are attended with more or less fever.

When the disease affects the mucous membrane of the trachea, it is usually commenced with a sense of lassitude over the whole body, a sensation of cold or chilliness, especially when the patient is exposed to an atmosphere

colder than ordinary. A hoarseness of the voice, frequently produces a sense of roughness and soreness in the throat and wind pipe, and some difficulty in respiration; there is also a feeling of stricture in the chest, and more or less cough, which seems to be excited by some irritation felt at the back part of the throat. The pulse generally becomes more frequent, and is soon hot and dry, especially towards evening. As the symptoms increase at night, from the restlessness and increased frequency of the cough, the patient is often prevented from sleeping until towards morning.

when a diminution in all the symptoms usually occures. The cough is gene-ral, at first dry, and causes pain about the chest, [illegible] to [illegible] along the [illegible] on one side. Pains resembling those of rheumatism, are also frequently experienced in the muscles of various parts of the body, particularly about the neck, head, breast and back. The appetite is impaired, and there is a greater degree of thirst than usual.

In the progress of the disease the cough is accompanied with a discharge of mucus which is at first thin and brought up with difficulty but gradually becomes thicker

and is discharged more copiously, and with less frequent and violent coughing. The hoarseness and soreness of the throat, as well as of the other symptoms abate at the same time, and the disease soon ceases entirely. Such is the general course of an attack of severe catarrh, which under ordinary circumstances is commonly neither tedious nor dangerous.

Very generally the disease commences with sense of dulness, an affection of the eyes and nostrils, and dull pain in the [illegible], which after a time are succeeded by hoarseness, cough, pain, [illegible] of the chest and [illegible].

All these morbid [illegible]

[illegible]
structions of the functions of the
skin; chiefly from unaccustomed
cold and moisture. We see [illegible]
clearly from these details, that
[illegible]
of the [impos]ing cause, there
is nothing specific or peculiar in
influenza, by which it differs
essentially from common or [illegible].

The fact that the influenza is
modified in its character in dif
ferent individuals and varies
in its intensity in different cases,
shows the impossibility of sub
jecting those affected with it
invariably to the same treatment;
it is true that when [illegible]

[illegible]
influenza, [illegible] apply [illegible]
this general plan to individual
cases [illegible]
Many cases never [illegible]
[illegible] of the [illegible]
call for no internal remedies
whatever; while in others the
[illegible] of the patient [illegible]
the active remedies if not neg-
lected. Between the two ex-
tremes there is an infinity of
shades in the disease, each call
ing for particular modifi-
cations of treatment. To decide
upon the necessity of these modi-
fications is the business of the
scientific physician.

Impressing solemnly upon the reader's attention this important truth, we shall now proceed not to lay down the treatment of influenza in all its details, but to review the remedies ordinarily demanded, and to offer a few cautionary hints in relation to each.

Bleeding.— In proportion to the violence of the disease and the robust and plethoric frame of the patient, will the loss of blood be called for in influenza. Whenever the disease is attended with much fever, oppression of respiration, severe pain in the head or chest, the immediate loss of

a sufficient quantity [illegible]
will always be found to afford
very great relief. To derive from
it all the [illegible]
affording the loss of blood must be
properly timed and adapted in
quantity to the existing stage and
violence of the disease, as well as
to the gas and constitution of the
patient. It is too often the pra-
tice to employ in the first a
variety of remedies more or less
improper, and then as a last re-
sort, to try the effects of bleeding
at a period when the relief ob-
tained from it will be far less
than it would have been, had
it been resorted to in the com-

commencement, or even at an early stage of the attack.

Purging. (When the bowels are costive that is when an evacuation from them has not occurred for a day or two, some gentle laxative or castor oil or a seidlitz powder should be given.

In severe attacks after [illegible] has been resorted to, or in milder cases, marked at [illegible] by unusual oppression and laborious breathing, a [illegible] may be administered with great effect and [illegible] very well to the use of stimulants, either alone or combined with opium. In what may be called the bilious varieties of influenza or when there is a predominance of nausea, with some pain, sore [illegible] and bitterness about

the lower ribs on each side or the epigastrium; calomel followed by salts or the compound powder of jalap, will be of essential utility. The inhabitants of the southern States evince, most frequently, when attacked with the disease, the bilious complication.

The remarks just made respecting the use of purgatives, will apply to that form of cases, when the influenza is complicated with bilious symptoms so called,

Emetics.— In cases of influenza, at the first accession of the symptoms, an emetic will produce often very great and sudden remission & frequently what threatened to be a serious, a very mild attack. At a later period, also, circumstances may occur in which an emetic may be proper;

generally, however, it is only in the first period of the attack that the [illegible] of their use is free from [illegible] doubt. In the subsequent stages, the employment of the emetic articles, antimony and ipecacuanha, in minute doses, is more beneficial than when they are given so as to induce vomiting. They constitute in this [illegible] an excellent addition to the [illegible] mixtures employed towards the [illegible] of the disease.

Antimonial wine, combined with the syrup of squills, is a very customary prescription in domestic practice, for the influenza or a cold occurring in children. In many cases the combination will undoubtedly [illegible]

good effects, but it is by no means one to be recommended under all circumstances.

Blisters.— The application of a blister will be often advisable, especially in those cases of influenza accompanied with considerable [illegible] of the chest a dry harrassing cough, or much pain of the side or breast. They require however to be properly timed and the system prepared for their action, or they will be far more liable to be productive of pernicious than of beneficial effects. For ourselves we are of opinion that at a further stage of the disease blisters may be employed with decided advantage in a much greater variety of cases than

tives in which they are usually resorted to. (When the head and eyes are much affected, a blister to the nape of the neck will often produce immediate and very decided relief.

Opiates. - Various preparations of opium are remedies of great power in many cases of influenza; but they do not admit of indiscriminate use in all cases or in every stage of the complaint. It is only when the more active symptoms have declined that they are found invariably to relieve the restlessness and cough and to induce a quiet and refreshing sleep.

Mucilaginous Fluids. - These are confessedly the safest and most effectual means for quieting the

cough that we possess during a least the first stages and height of the disease. They effect this too without [illegible] dangering irritation of the [illegible] or an increase of the inflammation or of the attendant fever. Barley water, a solution of Gum [illegible] water, a decoction of quince [illegible] or even simple toast water, may be taken either plain or [illegible] and slightly acidulated by the addition of lemon juice or other vegetable acid in small portions at a time [illegible] quently repeated. They will be found almost invariably to relieve the irritations and dryness of the [illegible] and to diminish very considerably the cough. One of the best of these

[illegible] per-
haps, the flaxseed tea, to which [illegible]
[illegible] a portion of [illegible]
and [illegible] have been added.

Inhalations- The present inhala-
tions into the lungs of warm aqueous
vapours, that is of the steam from
warm water, is a remedy from
which much advantage is often de-
rived in in the influenza and
all other varieties of catarrh. The
method of using or of applying the
steam is a very [illegible] consisting
in holding the face over a large bason
filled with hot water, or directing
the steam into the throat through
an inverted funnel with [illegible] in
most especially as well as [illegible]

[illegible]
apparatus.

Diet.— An abstinence from meat, and all solids and irritating food and stimulating drinks, is of the first importance in every case of the disease. A diet of thin gruel, weak tea, or milk and water, or dry toast, stale bread, with flax-seed tea, lemonade, althea, barley water for drink, will of itself, if the patient at the same time remains in with doors for a day or two, remove slight attacks; while, in the more violent cases, a similar diet is essential to the successful operation of the above by remedial measures. Strong

common Ginger. Bland dil-
uents drinks whatever may be
the addition made to the water
of which they are composed wheth-
er sugar, syrup, vegetable acid, con-
tain of the farinacea, or mucilage
are demanded in all cases of ca-
tarrh or influenza. Every stim-
ulating fluid, whether distill-
ed or fermented, must be avoid-
ed; in any quantity it will have
the effect of increasing the fever
the cough and the difficulty of breath-
ing. Even the languor and depres-
sion which in the commencement
of certain cases of the influenza
would appear to many to call for
its use, are augmented by it, or it

[illegible]
replaced by symptoms [illegible]
danger

An
Inaugural Dissertation
on
Dyspepsia:

Submitted to the Examination
of the
Provost, Regents, and Faculty
of Physic,
Of the University of Maryland,

For the Degree of
Doctor of Medicine,
By
George W. Morrison
of
Maryland.

February 10, 1862.

Indigestion, or Dyspepsia.

Under this name have been confounded various morbid states of the stomach, such as chronic Gastritis, irritations of all kinds whether vascular or nervous, and various forms of gastric depressions, or debility, and a consequence of this confusion has been a serious error in practice; a set of rules applicable to a particular condition, having been too frequently extended without discrimination to others entirely different.

The name is unfortunate,

as, instead of expressing a particular pathological state, it merely refers to result which may follow from different & even opposite conditions of the stomach; and it is not improbable that much of the confusion alluded to has arisen from this cause.

It has been questioned, whether there is any distinct gastric disorder, not included under other recognized titles, to which the name of Dyspepsia properly belongs. Broussais and his disciples referred all those affections usually called Dyspepsia to gastric

irritation or, inflammation.

But this view has not prevailed. Cases frequently occur, in which it would be impossible to trace all the phenomena to this origin. But the term may with propriety be restricted to that form of disease caused by a depressions of the actions of the stomach or, by a diminution of its power.

With the depression and debility of the stomach, are very frequently associated different forms of irritation and even inflammation; but these are incidental, complications

and when removed by appropriate means, still leave the original disease. As Dyspepsia usually occurs, the symptoms are of a mixed character, though an accurate observation will very generally discriminate those which belong to the proper disease, from those of an associated affection.

The symptoms of Dyspepsia are extremely diversified. One of the most prominent is a feeling of vague uneasiness in the epigastrium, not amounting to pain, but in some cases it is very distressing, and the patient will

strike himself over the stomach, or upon the side, in order to obtain relief by changing the sensation. The uneasiness is generally greatest when the stomach is empty, and changed to a sense of weight, or oppression when the stomach is full. This feeling is usually diffused over the epigastric region, and often extends to the chest, especially to the left side. Besides this there is frequently a sensation of heat, a burning or gnawing pain, arising from vascular irritation of the stomach, and sometimes a sense

of distension, from flatulence or other causes. Frequently, along with the debility, there is an increase of sensibility of the stomach from deranged innervation in which cases, substances swallowed may occasion acute pain, and the epigastrium evinces considerable pain on pressure.

The appetite is usually impaired and is sometimes wanting constituting Anorexia. The patient seldom experiences a healthy sensation of hunger, but when the stomach is empty, he has a feeling of sinking or hollowness at the epigastrium,

which leads to a desire for food. Thirst is a very frequent symptom.

The symptoms above mentioned, are all referable to the stomach, but there are others caused by the sympathy for other parts. Among these are various disordered sensations, such as headache, giddiness, and heaviness of the head; perverted vision, tinnitus aurium, and other unreal sounds, pains in different parts of the body; stricture or uneasiness about the throat; and irritation about the larynx and fauces, leading to frequent attempts

to clear the throat, which at length become habitual. The patient is low spirited, indisposition to exertions, irritability of temper, fretfulness &c; and, is apt to imagine himself affected with some incurable malady, such as Consumption, or disease of the heart. Palpitations of the heart, dyspnœa, and a short dry cough are not unfrequent, and tend to confirm his melancholy impressions.

In some cases his sleep is disturbed by unpleasant dreams, but in others it is sounds and affords almost the only interval of ease.

There is usually an unpleasant taste in the mouth in the morning with a furred tongue. The bowels are generally constipated. The secretion of bile is very often diminished, giving rise to light-clay-colored passages, and sometimes, though more rarely the bile is too abundant, producing vomiting of bile, or bilious diarrhœa.

The urine is variously affected, sometimes scanty and high colored, throwing down a whitish precipitate, at others copious, limpid and almost colourless.

The patient generally becomes emaciated, with a pale yellow skin, and an anxious expression of countenance. The disease of itself rarely proves fatal. In the majority of cases, the patient either recovers entirely, or slight occasional attacks upon the renewal of the cause. In others, the disorder which was at first purely functional, becomes organic, and the patient sometimes sinks under the combined influence of debility and irritation.

Of the causes of Dyspepsia, the most prolific are the combined influence of

sedentary habits and errors of diet. There is a certain amount of exercise necessary for the proper performance of the functions of the body, and the stomach likewise participates in the debility together with the rest of the organs, from an undue amount of exercise. The habitual use of food difficult of digestion operates in the same manner by causing an excessive action of the functions of the stomach. Large quantities of food act injurious by the over distension of its walls. If the quantity and the quality of the food were in proportion to the reduced

amount of exercise, the whole system might remain enfeebled, but the powers of the stomach would not be impaired.

But the fact is, however, while the gastric energies are thus impaired by sedentary habits, the diet is scarcely if at all modified; and the stomach being stimulated to excessive action falls into proportionate languor, and by the continual repetition of such undue exercise, the stomach becomes enfeebled and Dyspepsia thereby produced.

Among the causes may also be enumerated the excessive use of Alcoholic drinks, opium, and other cerebral and nervous stimulants, which act in the same manner as indigestible food by calling the stomach into excessive action, and secondary, loss of power, by the exhaustion of the excitability.

Spices used as condiments have the same effect, though in less degree.

Whatever calls of nervous energy from the stomach, depresses the gastric actions, and thereby favours Dyspepsia. Intense and protracted study

has the same effect: students therefore, who are at the same time indulgent to their appetites are liable to this disease.

Among the causes may also be mentioned, the use of tobacco, large draughts of cold water, which have an immediate depressing action upon the stomach; and, also the depressing emotions, as grief, anxiety and fear.

The pathology of indigestion appears to be not very well known. The conditions of healthy digestion are these: that the food should be masticated, mixed with the saliva,

and swallowed into the stomach.
after reaching the stomach, it
is converted into chyme; and
the chyme being transmitted
into the duodenum there it
mixes with the bile, the pan-
creatic secretions, and the in-
testinal mucus; after which it
is seperated into two portions,
the chyle which is now it a
fit state to be taken up by the
lacteals and carried into the
blood, and the remainder, or
excrementitious portion is at
length carried out of the
body. Liquids introduced
into the stomach disappear
more speedily than the solids.

We know this not merely from speculation, but from actual observation. Dr. Beaumont had the privilege of looking, for several months in succession, into a healthy human stomach, watching its conditions and contents during the process of digestion. A young Canadian had a wound of the stomach caused by a gun shot, which communicated externally. Through this aperture Dr. Beaumont introduced various articles of food, and withdrew them from time to time, and the gastric secretions, in the

different stages of digestion. He has published a very interesting account of these experiments, which have set at rest some points in the physiology of the stomach that were previously uncertain.

In the treatment of Dyspepsia the most important indications are the removal of the cause and the regulation of the diet. If these are not attended to, the medicinal treatment is not of much avail. But it is of the greatest difficulty to get the patient to pay due attention to his digestive organs.

What patients want, in general, is some medicine that will relieve them from their discomfort and uneasy feelings, and allow them at the same time, to go on in the indulgence of those habits which have generated the disease. And such remedies have not yet been discovered.

And as before stated it is not only the quality, but the quantity also, of food taken at a time that has this injurious effect. From observation it appears that the gastric juice is only secreted in sufficient quantity for the

demands of the system, and if the quantity of food taken is greater than the system actually requires, a part necessarily remains undissolved, and interferes with the healthy functions of the stomach. In reference to the quality of the food, it is very well known that different articles are of various degrees of solubility. Therefore when the digestion is liable easily to be impaired, it is of great importance, to refrain not only from those substances known to be of difficult digestion, but to avoid also the mixing of

substances in the stomach at the same time of different degrees of solubility.

And another principle, insisted upon by some, and acknowledged by all, is, that the stomach should have time to perform one task, before another is imposed upon it. It would be impossible to lay down any general rules, in regard to diet. The stomach had its idiosyncrasies. And the patient will be better able to judge what articles will suit his own case best.

The indications to be meet medicinally are to

relieve urgent symptoms, and to obviate constipation, and to impart tone and vigour to the stomach.

The nausea, and vomiting, that sometimes occur, (and when depending upon an irritability of the stomach, as it usually is), is a very distressing symptom, and very troublesome to treat. The matters thus thrown up are very often mixed with bile, especially if the pet things have continued for sometime, the presence of the bile owing to an inverted action of the duodenum. There are a list

of remedies recommended to allay the vomiting, Carbonic acid and the effervescing draught, made with Carb. Potas. or of soda, and Lemon juice have been highly spoken of. Sometimes the mineral acids answers better; and on the other hands, alkalies, as the liquor potassæ, or lime water are more effectual. A few drops of Chloroform swallowed in water sometimes answers well. Hydrocyanic acid and Creasote have been greatly praised for their virtue in abating sickness. But the great principle after all on which to treat the vomiting, is to reduce the quantity of food.

to that amount the stomach is able and willing to retain.

The Cardialgia or heart burn generally depends upon acid in the stomach, is best treated by Antacids. Pyrosis, this occurs in painful paroxysms, often accompanied by Cardialgia, the remedies used in this case are Bismuth, nitrate of silver, and nux vomica. Sick headache is a frequent accompaniment in Dyspepsia, and when depending upon indigestible food, or acid in the stomach, is best treated by magnesia, or a Calomel purge, if depending upon hepatic congestion. If there is acute pain, flatulence, or sour eructations

they are best relieved by an
Oxide combined with a cathartic.
A combination of Blue mass,
Rhubarb and Hyoscyamus, has
been recommended as one of the
best preparations to obviate
the habitual constipation.
The Rhubarb acting both as a
tonic and cathartic. If the
tonics fail to have the desired
effect, Quinine and small
doses of Strychnia have been
recommended

A

Clinical report of cases
submitted to the examination

of the
Provost Regents, and Faculty of Physic,

of the
University of Maryland.

for the
Degree of Doctor of Medicine.

by
W. P. Morgan
of the State of
Virginia.
Class of 1861. and 2.

No. 1. A Case of Strangulated hernia.
Andrew Freeburger, Huckster.
ast, forty. native of Maryland.
admitted into the Infirmary,
July, 7. 1861.
This man has been subject to
an oblique inguinal hernia for three
years, upon its first appearance, he had
worn a truss for some time, but suffering
no inconvenience from the hernia, he
had laid aside the truss, under the
impression that it was of no further use
to him.
Upon the morning of July 7. he took
a long walk, during which he felt slight
pains near the hernia. Upon his return
home, he found the the hernia protruding
from the external ring, and immediately
attempted to reduce it as he had been

accustomed to do. but not succeeding.
sent for his family physician, who also,
upon his arrival, failed to reduce the
hernia which had become hard and
injected. The man then came to the
Infirmary about six o'clock in the evening.
to be operated upon. The hernia had
been Strangulated twelve hours, and
the man had vomited several times.
Dr Butler proceeded at once to operate
upon the hernia after making an
ineffectual attempt to reduce it.
He cut down on the sac; and found
it very hard and dark colored. there
did not appear to be any evidences of
mortification. In reducing the hernia.
he had to nick the external ring, in
order to allow the sac to return
into the abdomen.

The wound was then closed with adhesive strips, and cold water dressings applied. He was given,

Acid. Hydrocyan. gtts. xxiv.
Morph. Sulph. grs. ii.
Syr. Zingiber. ℥ii.

a teaspoonful at a dose, as often as required. But one dose was taken. This mixture was given to allay pain and produce sleep.

July, 8. To day, he was ordered two grains of Calomel, with one fourth of a grain of Opium every three hours. he is recovering very fast from the prostration.

July, 10, the pills of Calomel and Opium were stopped to day, and an enema given.

July, 11. the operations on the bowels had become so free, that Chalk mixture.

was ordered to check the discharges. The man is doing well.

July, 1st. Nothing more was done for the patient and the man left the house to day. the rings had contracted. and was thought. he would never have a return of the hernia.

No, 2. A Case of Castration.

Dick. Col. Farmville, at. 20 years.
resides in Virginia. admitted April. 10. 1861.
The man stated that he contracted, and was
treated for Syphilis, three years previous to
his entrance into the Infirmary. But had
never to his knowledge, had a Chancre.
He also stated, that once having jumped
upon a horse. he had bruised one of his
testes, and from that time Abscess began
to form in his groin and scrotum, with
swelling of his left testicle.
Upon his entrance into the Infirmary. there
was a bubo in his left groin, and venereal
warts upon his penis. His testicle was
much swollen, adhesions had taken
place between it and his scrotum. There
were also four openings in his scrotum.
from which pus exuded.

It was determined to take the testicle out.
and accordingly, the operation was performed
April, 17. at ten o'clock, A. M.
There was very little hemorrhage from the
wound. it was dressed, and the man put
to bed.
At 4. P.M. the lint was removed, and
secondary hemorrhage was the result.
he bled freely for about three hours before
the hemorrhage could be arrested. the
Per sulphate of Iron was placed in an
undiluted form, in the cavity. and it
controlled the bleeding. there was no return
of the hemorrhage.
April. 19. the man is doing well, suppuration
taking place from the wound. from the
action of the Per Sulphate.
April, 22. The sloughing. smelling unpleasantly,
the scrotum was washed with water impregnated

with chloride soda, and the wounds closed with sutures and adhesive strips.

April, 25. The wound is healing, by granulations, from the bottom.

April, 30. The man is doing finely, has a good appetite, and is in good spirits.

May, 19. The wound is not healing very fast now, it is still kept closed by adhesive strips.

June, 7. The man left the house to day. the wound, nearly closed. he had recovered entirely from the effects of the hemorrhage.

No. 3. A Case of Typhoid Fever.

Ann Robinson. Servantess. æt. 20. years.

born in Portland, Maine.

The health of this womans family had been good, and she had never been sick before the present illness. She was admitted into the Infirmary. April. 13. 1861. labouring under an attack of Typhoid fever. Her statements were that she had gotten her feet wet on the first day of April. which brought on a very severe chill. accompanied with fever, the fever had continued to augment in severity, and she was still suffering from it. upon examination, her tongue was found coated with a white fur, and rather red around the edges. Skin hot and feverish. pulse frequent but feeble. with rose spots upon the Abdomen, and pain across the breast. On examination of the Lungs.

there was found small crepitation with some consolidation. She was ordered to take five grains of Sp. Nitrate of Ammonia every three hours. Brown mixture, to be given as required. Also five grains of Sulphate of Quinine. with tea of Dovers powder at night. Poultice to be applied to the Abdomen.

April, 15. The tongue was much coated and red around the edge. there was some headache. a rash was just beginning to appear upon her neck. the Ammonia was stopped. and she was ordered Sulphate of Quinine. five grains, five times a day with warm turpentine and poultice to the Abdomen. and flaxseed tea. as a drink.

April, 16. She felt more unwell, her cheeks were flushed, the rash was more diffused.

and the rose spots were very thick, her pulse was more frequent and not so strong, the tongue was moist and not so coated as heretofore, but her thirst was very great, with no appetite. The Quinine was continued as a stimulant, and for its action on the skin, while the Dovers powders acted as a sedative and Diaphoretic.

She was ordered the Extract of Hyoscyamus. three grains, with ℥ss Blue Mass, two grains. to be given at night. Cups, along the spine, and under the Scapula, also a mustard poultice, to the Abdomen.

The Hyoscyamus was given on account of it's sedative power, and the ℥ss Blue Mass. to act slightly stimulating upon the liver.

April 6. 18. Her tongue looked quite natural, and the patient was decidedly better.

She was taken with emesis this morning.

but it did not amount to much. except showing that there was some gastric irritation. There has not been much Diarrhea connected with this case.

She was ordered Oil of Turpentine eight drops every three hours.

April, 28. The patient is getting well very fast. she has been setting up to day.

April, 29. She has so far recovered, that the only medicine she requires is something to strengthen her.

April, 30. The woman left the house convalescent.

Four Cases treated upon the exclusive method.
by Prof Chew.

No. 1. Noah Bates. act. 20 yrs. Soldier. from
Maryland. admitted. Aug 12. 1861. sick ten days.
had taken but little medicine previous to his
admission into the house.

He had been taken with a chill. followed by
fever. which was not improved by his sleeping
on the ground at the camp.

On entrance, the pulse was found to be frequent;
but feeble, tongue thickly coated with fur.
skin rather dry and feverish. rose spots
over the abdomen, gurgling in the right
iliac region, There was very little diarrhea.
The neck and face were sponged with
vinegar and water. and alkaline solution taken
every two hours, Wine. when required, was
ordered for him.

Aug, 12. No change taking place in the

patient a blister was ordered to be applied over the hypogastric region, six inches in lenght by three inches in width. to be dressed with cabbage leaves. when vesication should take place. Sulphate of Quinine two grains every six hours, internally, was given. with sinapisms over the portions of the abdomen not covered by the blister.

Aug. 20. The man looks better to day, he answers when spoken to, and is able to put out his tongue. His pulse is stronger and not so frequent. The rose spots have given place to Sudamina. Sinapisms were to day placed all over the abdomen. The patient continued in this situation for five or six days, and then began gradually to sink, Wine and other stimulants were given, but with no good effect. on Aug. 30, he was ordered. Sulphate of Quinine, one grain, every two hours. but it was of no avail. the man

died the night.

No. 2. Geo Brown, ät. 21, Soldier, from New York, admitted, Aug. 12, 1861, sick eight days. This man had caught cold, and sleeping afterwards on dampt ground, with the rain falling upon him, had brought on the present illness.

He complained of a pain in his stomach, his pulse was quick, his tongue slightly coated, and he was very restless. A few rose spots were upon his abdomen, with gurgling in the right iliac region.

He was ordered twenty grains of Ipecac at once, which had the effect of causing free emesis. Alkaline Solution was given every two hours. Aug. 13, A blister five inches by three, was ordered to be applied over the hypogastric region, to be dressed with cabbage leaves, the Alkaline Solution was stopped, and Sulphate

of Lumino. three grains, every six hours, was ordered with mine as required.

Aug. 19. Diarrhoea coming on, he was given Chalk mixture after each operation of the bowels. this had the effect of controlling the passages. the man is much better to day, but feels very weak. his tongue is not coated, and his pulse is good.

Aug. 30. The man has been improving for some days, but is still very weak, his appetite is good, he was ordered an enema to induce an emission of feces from his bowel.

Sept. 11. The man left the house to day convalescent.

No, 3. Henry Mallin, ät. 20. Soldier, from Mass. entered the Infirmary, Aug 14. 1861. sick two weeks, with typhoid fever, which had been brought on by exposure to inclement weather,

The symptoms on entering, were bleeding of the nose and Diarrhea, headache and a feeling of great weakness, The pulse was frequent and feeble, tongue thickly coated, and a great many rose spots over the abdomen,

He was ordered to have a Blister, six inches by three inches, applied below umbilicus.

After vesication, it was dressed with cottage leaves, two grains of Sulphate of Quinine to be taken every six hours,

Chalk mixture, after each operation of the bowels, nine if required.

The patient immediately began to improve upon this treatment, and in a short time

was walking about the room
Aug 28 The quinine was stopped to day
the man's appetite is very good and he is
fast regaining his former strenght
Aug 30 The man has left the house to report
himself at camp

No. 4. John Gable. æt. 26. Soldier. from Penn.
entered, Aug. 16, 1861. sick ten days with
typhoid fever.
This man had also taken a fever from
exposure to the inclemency of the weather.
he had not received any treatment previous
to his admittance into the Infirmary.
The case was well marked typhoid fever, and
in addition to his other symptoms, he com-
plained very much of his stomach. feeling
as if overloaded.
He was at once given twenty grs. of Ipe-
cacuanha; which caused free emesis. and after-
wards he was put upon alkaline solution.
a tablespoonful every two hours.
Chalk mixture, after each free operation of
the bowels, and low diet.
Aug. 17. He was ordered a blister. six by three
inches. below the umbilicus. to be dressed

after vesication, with cabbage leaves.
He began to improve at once, though for
six or eight days, he was very weak.
The blister in this instance remained open for
a considerable lenght of time.
Sept. 2, Being anxious to join his company,
the man left the house, convalescent this day.

The four foregoing cases of typhoid fever, are but a portion of a great number treated in the Balto Infirmary during the months of August and September, by Prof. Ober. The disease was of a low type, brought on by exposure to inclement weather, or by some unaccountable cause. The patients, in most of the cases, felt debilitated, or worn out for several weeks, and would continue to do Camp duty until utterly prostrated. In other instances, the disease would fasten immediately upon the system, and the men would be kept in the camps a few days and then be sent to the Infirmary in a dying condition.

The pulse was usually under one hundred, but sometimes ranged as high as one hundred and twenty. Headache, pain, in the back, and limbs, with very little epistaxis in any of the

cases. Diarrhœa had, or did occur, in nearly all. the tongue dry, and red at the tip and edges, pain in the right iliac region, the gurgling sound was heard on pressure being made. tympanities was common to all. rose spots and sudamina were constant attendants.

In the few post mortems allowed to be made, the Glands of Peyer were found inflamed, and the mesenteric ganglia enlarged and softened.

The alkaline solution was generally given during the first two or three days. and then changed to sulphate of Quinine, and a blister applied over the hypogastric region. the results were highly gratifying. the patients showing marked improvement from the application of the blisters, which were in several cases, applied two or three times.

Wines, brandies, broths, and beef-tea, were given as stimulants and nourishments.

The proportion of deaths, more one in ten.

Dissertatio

De

Pneumoniâ

Professorum Regentium Praefectique

Investigationi Subjecta

Pro Medicinae Doctoris Gradu,

A David McMeal, Jr.,

Die Sextâ Ante Nonas Martias,

MDCCCLXII.

Danl Mc Meal - M. D.

Dissertatio Haec

Quae Propensè Erga Eum

Gratique Animi

Pro Amicitiâ Ejus Atque Benevolentiâ

Testimonium Sit

Inscribitur,

Ab Amico et Discipulo,

Danl Mc Meal, Jr.

"Cole literas qnae res secundas ornant;
et qnae adversis solatium praebent."

"Homines ad Deos in nulla re propius
accedunt qnam salutem hominibus
dando."

Dignissimi, atque Eruditissimi Professores:

Ut officium est mihi cuique studenti impositum aulegnam ex Universitate Terrae Mariae Summos Medicinae honores consecutus fuerit, aliquam rem, eligere et declarare ut vestro judicio subjiciatur, vobis, alacriter obsequor, quamquam, opus bene peragere, non posse mihi videtur. Primaquam hanc rem incipio, ut mihi indulgeatis, neque scientias meas, quasi animi ad maturitatem perducti, neque aetate, neque usu gravis, aspicialis, peto. Sententias novas afferre mihi non libet — timens ne, arrogantia juvenilis animum meum in errores induceret. Haec res iis qui speculari amant spatium magnum praebet; empiricus autem, atque ignarus plerumque sibi hoc ingenium arrogant. Spero ut has observationes subsequentes, animo aequo perlegatis, duram capio provinciam —

Argumentum.
De Pneumoniâ.
De Symptomatibus.
De Signis.
De Causis.
De Varietatibus et Implicationibus.
De Dignotione.
De Praecognitione.
De Pneumoniae Sitû.
De Anatomiâ Pathologicâ.
De Morbi Curatione.
De Victus Ratione et Certâ Vivendi Lege.
Finis.

De Pneumoniâ.

Pulmonitis, a pulmone, (πνευμων), inflammatio et opus ejus in substantia pulmonum parenchymatosa est. Definitio late patens a C. J. B. Williams datur; viz; Pyrexia cum dolore plus minusve in quadam thoracis parte; pregnans aut difficilis respiratio; tussis cum excreatione tenace et ferruginea; initio rhonchus crepitans, postea respiratio bronchialis et bronchophonia cum percussionis hebetudine in quadam thoracis parte.

Hippocrates, Celsus, Aretæus, Sydenham, Morgagni, Valsalva, Stöhl aeque Hoffman cum pneumonia pleuritidem confuderunt. Cornelius Celsus, antiquitatis notitia clarissimus, Latinos inter medicos primus est; sed prudenter legendus. Nam in multis Asclepiadem Methodicum sectatur, ut fatetur ipse. Hujus cote stylum subigemus, et pluris

similitudinem ejus quam medicinam facimus."
Varia sane ejus eruditio aliud prodere potest,
quam virum ingenio natum, magna
seculi felicitate, quod bonarum literarum
erat peritissimum. Excipit nempe
voluitque ea aetas viros scientia, pru-
dentia ac eloquentia summos, Tullium,
Sallustium, Catullum, Virgilium, Pro-
pertium, Horatium, Tibullum,
Manilium, Vitruvium, Antonium
Musam, Ovidium, Livium, Valerium
Maximum, Scribonium Largum.
Ingenium et eruditio medicinalis,
quamquam nomen sempiternae famae
paginis inscribere semper cupiens, satis
habebat vestigia eorum segui qui
terram meliabantur atque aliquos
ponebant terminos, donec Laennec,
ipse agmen, seculo ultimo labente,
homo acris ingenii, artis medicinalis
compos, omne imitandi studium a se

abjicieus, cum sola Natura in profundissimis ejus mysteriis communicavit et nodum Gordium dissecuit. Hoc praeclaro facto, hâc celebri inventione quae omnes priores aberrationes in arte medicinale delebit et "Tabulam rasam" praebebit, super quam nomen ejus super fulgebit tanquam palm auscultationis, nomen suum immortale reddidit.

"Homo, naturae minister et interpres, tantum facit et intelligit quantum de naturae ordine re vel mente observaverit; nec amplius scit, aut potest."

Hippocratis stella ducens quae omnibus medicum per centuria rexit, et Galen, regnum sibi vindicans, nihil aliud quam decessoris clarissimi dominationem confirmat et promovet, et summum imperium quinquagentis centuriis triumphantis modo habet. Ex manibus ejus potestate a

confidente, fanatico, et singulari Paracelso extorta, inter hos duos tyrannos etiam divisa fuit, quum utergue contentionibus Hoffmann et Boerhaave fortunatis ad ultimum regno expulsus fuit. Vastâ ut fuit eruditio, subtilis sagacitas et ingenium, et simulate nulli Sectae addictus, et cujus clari medicinae arti congruens ratio, Cullen, discipulus ejus, sibi regnum fortunate vindicavit. Talem simile hunc eruditum perelegantem et praeceptorem (iis temporibus eloquentiae principatum tenentem) mansit, cujus discipulus, Bruno, plagam primam opibus ejus imposuit, et denique recentibus, simplicibus, et consiliis illicientibus potestati radices evulsit et penitus extinxit. Brevi postea, rationes Darwin, Novelae, sensoriales, Rush vis spastica mutua cum Cullen naturae vi et spasmo et Brunonis incitabilitate, imperii divisi

in partem veniunt.

Quum pulmonum munus, necessitatem munus normaliter obeundum et inevitabilem omnis corporis injuriam cogitamus, illis morbo graviter affectis, accuratae dignotionis et medendi rationis idoneae pretium in summi et vitaliter necessarii organi inflammatione plene aestimare possumus.

De Symptomatibus.

Hic morbus algore plerumque introducitur; cruciatus pectoris, initio acer, acutus et pungens, exasperatus spirandi difficultate tussique quae primo est brevis et sicca cum parva mucosa exscreatione; frequentia spiritus ducendi et dyspnoea suffocationem paene efficiens in casibus memoriae duplicis et late se diffundentis simplicis. Plurimis casibus arteriae pulsus citatur et acutus, interdum quoque durus. At initio aegrotus plus minusve sudat, sititur, et linguam

pellitãm, cibi fastidium, exiguam valdeque imbutãm colore urinam, dolorem capitis et membrorum, et debilitãtem habet. Postannum vel duos dies sputum est ex colore aeruginoso fitque vicissim ex colore lutẽo, flavo, subflavo, et deinde viride ea proportione in qua sanguis majori minoreve quantitatem excreatus, plus plusque muco conjungitur. Sputum aeruginosum per duodecim dies, sanguinolentum per trẽs dies, sputum primitive flavum per novem, si consecutivum, per sex dies, perduraret. Lentitia per longum temporis spatium remanet. Mentis alienatio et coma periculosa indicia sunt. Casibus secundis notae manifestẽ evanescunt; dyspnoea conquiescit, tussis minus constans faciliorque fit, exscreatio minus viscosa et liberior, arteriae pulsus tardus fit. Febris quoque defervescit, pellis frigida, tenera, madida evadit, lingua purior, ciliave minor. Spirandi quaedam difficultãs et arteriae pulsus

celeritas plerumque remanent, postquam vocis evanuerunt, saepeque tussis cum bronchiali respiratione per aliquot tempus remaneat, et per mutationes in bronchitem acutam transeat.

De Signis.

Vocis initio primum stadium; Auscultatione adhibita, levissimam crepitationem percipimus, quae pneumoniae crepitus mucupatur. Crinium inter digitos fricatorum soneri proprio simillimus. Nonnulli illus strepitui salis in carbones ardentes injecti assimilavere. Murmuri vesiculari ventum per arborum folia spirantem similans adjungitur primus strepitus ille (crepitatio) qui autem, inflammatione progressa, paulatim crescit illumque superat. Morbo debita curatione repressa, vesicularis murmur paulatim redebit, quo durante, strepitus finem habebit, et secundum stadium, videlicet hepatationis, efficitur. Nobis persuasum est, levem illam crepitationem

ex minimis bronchiorum ramificationibus et ex imis pulmonum vesiculis procedere, quomodo autem hoc fiat, opiniones valde differunt. Laennec. Andral, Walson, et dignus noster Professor Theoriae Medicinaeque Cultus cum plurimis aliis medicis arte insignibus cogitant aerem per liquorem aliquem manentem celerrima multarum bullarum et formatione et fissione illam producere. Dignus noster Professor affirmat tubos et ramificationes liquore viscidi intus munitos effusione interstitiale comprimere, et illis separantibus, quod aere efficitur flante per illos, sonus ille proprius auditur.

Notae infra Secundum Stadium; Nonnunquam murmure vesiculari crepitationeque extibulibus, nullum percipitur sonus. Generalium respiratio bronchialis quae est ragum, hians, anhelans sonus, aere effectum mente per maximos tubos bronchiales,

minoribus vesiculis clausis; vox bronchialis, vel bronchophonia, quae est sonus ex bronchiis quum aer per eos penetrat, et ad ~~aurem~~ aurem condenso et solido pulmone inde conducitur; defectio visionis; respiratio puerilis quae efficitur quum unus pulmo pro duobus fungitur; Sputum rancidum (Sanguine et muco mutato mixtum) quod expectoratio propria est. Per auscultationem transitio ex primo in secundum stadium nullo modo reperire potest. Ut paucis verbis dicam, aegrotus spirandi difficultate laborat, spiritus nempe acceleratur, valdeque coagitur; sputat cum difficultate; sputum est perviscosum, vasibus firmè adhaerans, coloris squalidi et rubiginosi; percussio cum hebetudine bronchiale, bronchophonia comitatante, omnino obtusè sonat. Morbus attamen fortunato eventu terminare potest.

Notae indrā stādium tertium;

Morbi diuturnitas

et propriae notae generales potius quam signa physica hoc stadium adesse testantur. Quum morbus huc usque pervenerit, ad ultima jam ventum esse haec testantur; nempe nares acutae, collapsa tempora, oculi concavi, frigidae languidaeque aures et imis partibus leniter versae, cutis circa frontem dura et intenta, color aut niger aut perpallidus. Sic transit homo gloria mundi. Fieri attamen potest, ut expectoratio inverteretur aut ad puren aut ad tenuem aqueosum lignosum ab Andral bene depictum, et qui seromucosum lignosum haematine mutata esse videtur.

De Causis.

Scarlatina, Variola, bronchiorum inflammatio, expositio frigori diuturna, rubeola, missiones repente suppressae, pleurae inflammatio, Cordis morbi, agitatio vehemens, asthma, in pulmonibus aut in bronchiis corpora adventitia, asphyxia pestilenta, conditio moribunda, praevia pneumoniae tentatio, tubercula, febres congestivae, et, secundum M.M. Barthez et Rilliet, in infantibus ab uno aetatis anno usque ad annos tertios natos pneumoniae causae sunt procatarcticae. Constat foetum in utero invasisse; in pueris prorsus usitata, in adultis nedum, et in senibus praevalens. Plus mares quam feminas invasit.

De Varietatibus et Implicationibus.

Varietates. Pneumonia typhosa seu biliosa, in qua inflammatio pulmonica febre stomachica inflammatoria et symp-

tomatibus typhosis comitatur; broncho-pneumonia, pleuro-pneumonia et pneumonia varietates sunt.

Implicationes - Quum icterus flavus adest, color tegumenti et scleroticae in lutum lugescens indicium communissimum est. Quum pericarditis, obscuri, caeci et velati sonitus, cum pulsu non aequis intervallis moventi, concretionis fibrosae casus in corde et vasibus magnis designare supponuntur.

De Dignitione.

Sputum ferrugineum et germanus rhonchus crepitans hujus morbi indicia propria sunt. Hic morbus ab celulari pulmonum hydrope aut phthisi pulmonali rerum gestarum memoriâ et summatim symptomatibus; ab pulmonum apoplexia haemoptysis verae absentiâ et crepitatione (quae gradatim progreditur) et percussione, et primi gradus sputu, et secundi gradus

bronchophonia et bronchiale vibratione;
ab bronchiorum inflammatione,
sputo ferrugineo, percussionis hebetatione,
bronchophonia, respiratione bronchiale
et crepitatione minuta; praestari potest.

De Praecognitione.

Exscreatio abundans huius densi, aequabilis,
subflavi magna est stimulatio, praesertim
quum coniungitur cum majore urinae
quadam subsidentia habentis fluxione,
diaphoresi mili, et tussis, incubus
et doloris in thorace decessione. Quum,
contra ea, arteriarum pulsus exigui
imbecilliqne sunt, non aequis intervallis
et laborose moventur. Quum delirium
comam, convulsiones aut intus ingentem
et cutem percallidam videmus,
aegrotus in periculo mortis est. Respiratio
crepitans cum vultu livido et continua capul
humeroque levare intentis gravia mortiferaque

indicia sunt. Fluore superveniente, adversum est. Prognosis plerumque est dubia. Huic morbo ad finem venire licet resolutione, suppuratione, abscessu, gangraena, pneumonia chronica aut aliis morbis.

De Pneumoniae Situ.

In omnium aetatum aegrotis dexteri pulmonis pneumonia circiter duplo frequentior est quam illa pulmonis sinistri. Huius lobulus inferior lobulo superiore frequentius afficitur. In ducentis sexagenta quatuor pneumoniae casibus lobulus superior affectus fuit centum et unum, lobulus inferior centum et tres et triginta, medusque triginta. Apicis pneumonia in pulmone dextero est frequentior duplo et dimidio quam in pulmone sinistro, imprimis in debilis et infirmae valetudinis hominibus.

De Anatomiâ Pathologicâ.

Mutationes intra primum stadium; Hoc in stadio pulmones turgidae et huic appellatio Splenizatio adhibetur. Pulmonum substantia ex colore baetico extrinsecus, sufflatâ, et gravior quam pulmonibus sanis, sed satis levis super aquam ferri, cum sanguine aut sanguinolento-sero distenditur. Cellae plus fluoris quam aeris tenent, interlexti vires in portione inflammata diminutae sunt, et interlexto recenter inciso, rubidum et spumeum serum effluit. Membrana mucosa ramificationum bronchialum perminutorum rubeum colorem habet.

Mutationes intra stadium secundum;

Huic stadio appellatio Hepatizatio adhibetur. In eo pulmo est solidior, densior, friabilior, magis facile contusa et interrupta, nihil crepitationis habet, nihil aeris continet, et in aqua necessarie ad fundum subsidet.

Pulmone incisa, aliquis fluidi rubidi, non spumei, aut in primo stadio, effluit.
Mutationes intra tertium stadium; Hoc stadium Suppurationis vel infiltrationis purulentae vocatur. Hac suppuratio magna ex parte diffunditur in forma infiltrationis purulentae, et ut nolas distincti abscessus sibi sumat infregnens est.
Pneumonia primitiva raro vel nunquam in gangraenâ terminat, et Gangraena, cum suppuratione non conjuncta., pneumoniae ferrara consequentia est.

De Morbi Curatione.

Id genus morbi plus periculi quam doloris habere Aurelius Cornelius Celsus affirmat, sed plures salutatem ejus quam medicinam amant. Contra vim morbi gravitatemque contendere prima indicatio est; non ferro, sed hydrargyro et opio victoriam reportamus. Ut res bene habeat, medicamentum quam primum adhibere oportet. Hoc in morbo summis laudibus hydrargyrum satis efferre non possum ex usu meo exigno atque sana observatione; atque in hoc ac in aliis morbis maximum dei donum id appellari mihi licet.

Asclepiades officium esse medici dicit, ut tuto, ut celeriter, ut jucunde curet. Id votum est; sed fere periculosa esse nimia et festinatio et voluptas solet. Hoc in morbo curatio pro stadiis tertiis mutat. Secundum theoriae cuiusque

Nostrum professorum dignissimum, atque
eruditissimum ex pulmonum vasis
irritationem et congestionem orientem
ex inflammatione removere prima
per primum stadium indicatio est;
Stadio secundo indicatio alia est —
interstitis effusionis, inflammationis
operis remotionem adjuvare; hoc
stadio quoque viribus deficientibus,
ceu maxime tertio, functiones quae
organicâ injuriâ opprimuntur quam
celerime sustinere necesse est.
Curatio intra primum stadium;
Sanguinis
detractio, ex brachio et cucurbitulis,
nostra maxima ancora, prudenter
adhibita et antimonii et potassae
tartratae, vel hydrargyro et opio
adjuvata, magnae vasorum plexus pul-
monicae distentum levabit et reactionis
processus praeveniet. Antimonium supra

vasas inflammatas specialem (ignotam?)
actionem habere videtur.

℞.

Antimonii et Potassae Tartratis grs. xij.
Syrupi Acaciae ℥j
Aquae Cinnamomi ℥vj

M. et ft sol.

Sig. Sumat Cochleare unum amplum duo quāque horâ

Opium, dolorem et tussem mitigans, anodynarum officio fungitur, et sedationis, placans istam irritationem nervosam quae liberalem venaesectionem atque usum hydrargyri saepe sequitur, dum injuriosè stimulans et astringens opii effectum praevia venaesectione et hydrargyro occurretur. Sed summa hydrargyri actio hujus specialis generis quod inflammationis opus, ut in iritè, removere ei vires praebet esse videtur. Initio counter-irritatio, febre praevalente, nimis excitationis

creat, sed utilissima est quum pulsus
reducitur. Casibus typhosis Emplastra
vesicatoria ab initio utantur. Reducta
inflammatione, purgatis, urinam cientes,
sudorem excitantes, expectatis vel sedatis
symptomatibus indicantur.

Curatio intra Secundum Stadium;

Quum
signa physica pulmones sati consolidatae
fieri annunciant, cum minimis crepitationis
reliquiis, aliis modis tractandum est.
Potentissima remedia sunt haec quae
vasorum morbidorum actionem maximè
modum. adhibent, atque absorptionem
eliminationemque fluidi effusi promovent.
Hydrargyrum, H. C. M., horum est
longè efficacissimum, praesertim junctum
cum opio. Nunc counter-irritatio per
Emplastra vesicatoria vel antimonii
et potassae tartratis unguento, misturae
ad expectorationem efficiendam cum

alkalis utiles erunt.

Curatio intra tertium stadium;

Suppuratione in pulmonibus inceptâ, minimum medicinâ fieri potest. Nos solum adhibere possimus illa quae stimulant, praesertim quae respirationis adjuvandae potestatem habeant ut pus quod tubibus accumulat expectoretur; Nempe Ammoniae Carbonas. Tinctura Lobeliae, Aetheria, Camphora, Decoctum Senegae, Vinum vel Spiritus Vini Gallici. Pneumonia chronica acutae interdum succedit et interdum forte obvenit. Generalibus rudimentis tractandum est. Venaesectiones parva, praecipue cucurbitulis, et counter-irritationes nunc indicantur.

De Victus Ratione et Certa Vivendi Lege.

Legem cibis quandam constituimus, sed quibus more Graeco bibere consuescunt, pro viribus parvam Spiritus Vini Gallici portionem damus. Illa laborantes aliquando hunc morbum infeliciter contrahunt, et morbo facilius succumbunt: Cavendum est, tamen, ne aegroti hujus corporis temperationis ex nimio medicinae usu debilitentur. Omnibus his malis quam maxime medendum est; praeterea, haec bria, mens laeta, requies et dieta moderata praecipienda sunt. Per stationes recentes liquida tenua, mucilenta, farinaque; in gangraena aut in suppuratione late se diffundente, cum magno corporis virium damno, jus e carnibus et vinum, sed irritatione recenti exorta, retractanda sunt. Per convalescentiam dieta gradatim mutanda est; intestina cospilanda sunt; ut verbo dicam, vita

tōlā ad normam certam dirigenda est.

Hac dissertatione conclusā, spero, Professores dignissimi, ut meas errores silentio praetereatis et me liberaliter tractetis. Summas gratias vobis ago, quod mihi tot tantaque beneficia indigno largiti fuistis, quorum memoriam nulla delebit oblivio, et, ut praemium parvum pro acceptis beneficiis vobis omina fausta precor. Multis annis vitae vestrae elapsis, multo plures vobis adficiat Deus! et per eosdem sanos vos custodiat atque incolumes.

Haec ex animo optat et vovet

Vester Observantissimus

Dan. Mc Neal, L.

An

Inaugural Dissertation

On

The Philanthropy of the Medical Science

Submitted to the Examination

Of the

Provost, Regents and Faculty of Physic

Of the

University of Maryland

For the Degree

Of

Doctor of Medicine

By

John Henry Martin

Of

Harford County

Maryland

The human mind is dark indeed
which attempts to solve the mysteries
of Infinitude. It is incompetent for
finite intelligence to compass the
sublime conceptions of the Infinite
in the Creation of man. We know not
what were the original intentions of
the Creator, whether man made in
the image of his God, with the im-
press of holiness when his soul was
destined to live ever in the sun-
shine of his native Eden, or did Deity
foreseeing the moral destruction of
his prototype go beyond his intentions
that the thing of his Creation should
yet see a better glory. But the mind
is paralyzed and confused by such

speculations. It is easy, however, for human intelligence to trace the gradual development of the mind, to mark its struggles from age to age in rebuilding the shattered ruins and recovering from its consequent imbecility.

A severe probation was decreed to man. Amid sorrow and strife, convulsions, disease and death has he been doomed to gather each new idea and shape it according to necessity.

Thus the great change in human condition has been wrought. That which has been conceived and adapted to individual necessity

has been made in [illegible] and utility. That which one generation has conceived as a visionary mist before the imagination, has been grasped by its successor and become a reality.

The lightning flash and its thunders peal had filled the minds of mortals for many generations with astonishment they had beheld the mighty giant of the forest rent and the solid rock shattered, simultaneously with the flash and roar of natures wondrous phenomena, but to our own countryman it was reserved to learn its nature and lay the death dealing

weapon of Love passive at the
feet of men, who in the present
century have made it subservi-
ent to their will.

So far we have a glimpse of the
march of mind in reaching its last
crisis; it has been much shattered
by its researches, great insights
have been developed, true philosophy
and profound and useful scien-
ces have been promulgated and
many a thorn has been removed
from the path of exiled human-
ity in its return to its native
Heaven.

Every contributor to science may
be a philanthropist, but he who

devotes his life and talents to re-
lieve the suffering of his fel-
low creature is the true philan-
thropist, science thus directed
becomes the handmaid of re-
ligion and the philosophy of
life is complete

Thus we come to the real subject
of our Thesis. The Philanthropy of
the Medical Science

This is a subject which needs no
argument to prove its reality
When applied to the [illegible]
[illegible] portion of the Medical Pro-
fession; those men who adopt
the sentiment expressed by the
immortal Pope that "The proper study

of mankind is to benefit man
Its soothing influences will ever
remain a boon to the [illegible]
of a suffering humanity, and
human lips will never cease to
utter its praise.

With mans moral degeneracy
came also his physical degeneracy.
The tender plant which has
germinated, grown and flour-
ished in the warm and congen-
ial atmosphere of the nursery if
exposed to the vicissitudes of a
climate not congenial droops
and loses its natural freshness
and beauty, so man forfeiting
his high estate, exposed to the

consequent changes, was subjected to disease and suffering. Natures Architect [illegible] forseeing this subsequent necessity had furnished ample resources and means by which this suffering might be mitigated, but for man himself was reserved the task of learning the nature and utility of these agents and adapting them to their proper sphere.

In the development of the Medical Science all other sciences must become subservient, great difficulties must be overcome. The material must be obtained from the vast domain of nature

the animal, mineral and vege-
table kingdoms must all furnish
supplies.
The application of the material
thus obtained can be accomplished
successfully only by a perfect
knowledge of the construction and
mechanism of the object to which
the application is to be made, and
the application is to be made only
to the part or for the benefit of the
part, which may be deranged.
That mere accident has furnish-
ed and adapted to our use
many of the valuable medical
agents which we possess cannot
be denied, but by untiring research

by patient perseverance the mys-
teries of nature have been dissi-
pated, thereby elucidating the
intricate problem which held
locked up the secret to the health
and happiness of millions of
suffering humanity.

The Science of Medicine in its
advancement has required too
much labor and individual
sacrifice to be accused of selfish
empyricism. The mineral moun-
tains and flinty strata, the
beautiful plain and ocean's
depths have been forced to yield
their treasure. The lofty tree
the tender plant and fragrant

flower, the humming insect,
earth, sea and air all combine
in this grand philanthropic
scheme of lessening creatures
woes

The physiological structure of
man which for centuries was
looked upon as an intricate
complicated to be unravelled.
has become almost as plain
as the schoolboys task, every
part of the human frame
has been demonstrated and
received its proper name
the heart, the engine which
diffuses the life fluid through-
out the animal economy

the lungs at the will of which the
breath of life is held, and the
brain the controlling medium
of sense and mobility throughout
life. I am compelled to unfold
the secret by which their func-
tions are performed.
Interesting and important as the
public physiological condition
may be - and to know the diseased
state, it is of the most importance
to understand the healthy -
yet to the physician the patholog-
ical condition is most instructive.
Disease has been defined - and
simply too - any deviation from
health. Like its subsequent

death, it is no respecter of persons:
it spares not the high nor the
humble, the rich the poor the man
of years and the child of innocence
all must bow alike to its wither-
ing baneful stroke
There is not an organ or part of
the living frame which may not
become a prey to disease.
It may come with a gentle
hand and depart, leaving but
a slight dizziness which the re-
freshing influence of the gentle
breeze may remove or it may
linger breathing its subtle insid-
ious poison into the very vitals of
its victim, again it may seize

with violence, burning and tortur-
ing the unfortunate subject of its
vengeance
Numerous indeed are the ways
in which unhappy mortals pass
the dread sentence "thou shalt die"
The smallest accident may de-
stroy the entire machine
Disease with its suffering and
death with its train have stimula-
ted the energies and aroused the
sympathies of man in his efforts
to save and prolong life and to
relieve his fellow from the pain
which is the consequence of disease
Thus many call the Medical
profession a calling they

Phthysis Pulmonalis, the name of one [illegible] of our most incom- [illegible] though mournfully the latter class of diseases. The seat of this disease is the lungs.

Whatever may be the cause which produces it, whether the peculiar nature of the patient, the necessities and accumulated dispositions, to which he may be subjected or subject himself, or whether it has been transmitted as an unhappy inheritance to an unfortunate offspring, it insidiously makes its introduction among its victims, while

tho deadly venom corrodes
and destroys the vital parts—
though the physician possesses
no curative control over the dis-
ease or patient, yet the conscienti-
ous [illegible] by skilful manage-
ment [illegible] the effects
of this morbid condition and
add many days to the life of
his patient, but too often while
the patient is taking remedies
& indulging in the hope of gain-
ing [illegible] the emaciated
frame, the cavernous sound
and hollow cough give the
sad warning. The physician
that [illegible] is death.

If sympathy is a virtue of the human breast, upon none can it be more [illegible] bestowed than the [illegible] sufferer, on whose cheek rests the deceitful [illegible] while it destroys.

The study of such cases warns us that the field of research is broad, that much may yet be done to remove the mist from those things still so obscure to medical art. Encouragement is given to those entering the arena to labor, to go forth inspired with the hope that if their efforts should not be crowned

by the discovery of some great principle, they may have the pleasing consciousness of having labored to render those already deemed a blessing to mankind.

To no class of men is the world more indebted, to none is it more [illegible] useful, but animated by a sublime sense of duty and aided by their [illegible] great [illegible] rise above [illegible] the [illegible] of jealousy and prejudice and claim the prize [illegible] to noble fame.

The relation of the physician toward those who confide in

and in this particular that the [illegible]
skill differs from all others.
There are elements essential
to his profession, and essential
to his character — and these
apply more especially to those
of his about entering the pro-
fession — which he should
cultivate.

Sympathy is expected. We
can sympathize with others
though we can not embrace
their principles.

As we have to deal with hu-
man nature in every con-
dition, congeniality should
be cultivated, not that we should

engage in the vices or adopt the
opinion of every one, but that we
may exert our influence by inducing
them to respect the noble senti-
ments which we entertain.

W[illegible] are performing
the du[illegible] of our [illegible]
[illegible] true. He who [illegible]
[illegible] of [illegible] his [illegible] com-
spect [illegible] his fellow [illegible]
[illegible] a mourn-
ful spectacle of human deg-
radation [illegible]
[illegible]
[illegible]
[illegible] example of
[illegible] mortals

to their fellow and will just-
ly distinguish gentleman
of the human race.

An Inaugural Dissertation

on

Phthisis Pulmonalis

Respectfully Submitted to the Faculty

of the

University of Maryland

For the degree of Doctor in Medicine

By

W. R. McKeen

Maryland

Phthisis Pulmonalis

This is the name given to a tuberculous deposition in the lungs. In order to fully understand the nature of this disease it will be first necessary to investigate the anatomical changes. In this way we will more readily appreciate the great improvements made in the knowledge of the pathology of this disease by Auscultation and Percussion. There are several kinds of tubercles. The gray granulations, pulmonary granulations, and Miliary tubercles. All of which appear to be synonimous terms. There then is the Gray infiltration which is to all appearances like the foregoing only being deposited in larger, more irregular masses. They all present a

a grayish, shining, translucent appearance, or sometimes have a yellowish or reddish cast. Yellow tuberculous infiltrations appear to be the former variety, only ripening for expectoration. Tuberculous matter may be deposited in any part or tissue of the lungs. Preferably however in the upper portion and left lung. Still it is very rare to find tuberculous deposit in one lung without the other being in some degree affected. The tubercles may be at first hardish or chalky, then undergo a process of softening, commencing in the middle, when they find an exit through one of the bronchial tubes. Having found its way through the

bronchial tubes, and after the matter is discharged a cavity is formed. The lining membrane of which discharges, or rather secretes pus, sometimes there is one or more of these cavities, and they run together forming a vast vomica. Sometimes these cavities put on a healthy action secrete healthy ~~pus~~ lymp and become adhered.

Blood-vessels are found sometimes traversing the cavity, their walls yet on-tact. The bronchial membrane is found with all the usual marks of inflamation. The pleura adheres to the side. The parenchyma gives evidence of partaking of the general derangement by the usual signs of pneumonia. The mucous coat of the stomach is

found thro and deranged—
The glands of Peyer are found ulcerated and softened, they being the frequent seat of tubercles— Tubercles can be found in nearly all the structures of the body, next to the lungs they are met with more frequently ~~next~~ in the bowels— intestines— Phthisis may be complicated with diseases of other organs, or with accidental attacks of Pneumonia and Pleurisy— They should all be treated with reference to the existing disease, and the debilitated state of the system,

Course and duration of Phthisis.
This may be divided into two stages, "Viz" from the deposit of tubercles to their softening. From their softening

p

to their discharge. The duration of Phthisis varies greatly with different individuals- In acute cases of Consumption, what is commonly termed Galloping consumption, the disease has ended fatally in a few ~~days~~ weeks. In others, even those who have had prospects however have lived to old age with well marked symptoms from youth.

The ~~disease~~ symptoms of this disease are well marked, The disease generally begins with a cough, often the patient cannot recollect any Exposure which has led directly to this symptom, His attention is perhaps not called to it until the occurrence of fever, which generally comes on in the evening

Along with the cough, there is an ejectoration of a thin mucous like substance, which afterwards changes into a pus-like matter.

The commencing emaciation is the first thing however which awakens the patient to a sense of his real danger. His appetite may be quite good, his spirits gay and light, and "when the sounds of revelry by night" can be heard he may be found mingling with the throng of "fair women and brave men". Still there is a something which like the vulture which preys upon the entrails of "Prometheus" continually gnawing at his vitals. Pain may be and

generally is present- There is dulness
on percussion upon or below the
clavicle- The respiratory murmur
is feeble, and the inspiratory mur-
mur is attended with a harsh gra-
ting sound- These symptoms con-
tinue sometimes for a long time,
they then gradually pass away into
the second stage. To those who fa-
miliar with the disease, the appear-
ance of the patient in this stage is
almost sufficiently diagnostic.
The cough increases in intensity,
and is particularly troublesome in
the morning before rising.
Fever increases, and the hectic
flush is seen, a round circumscribed

flush upon the malar bone. Rigors sometimes occur. Colliquative night sweats also occur. Diarrhea sets in - These sweats and diarrhea are vicarious provisions of conservative nature which are tending to the relief of the congested lung -

The fatal termination comes on gradually. Oedema of the lower extremities takes place. Bed sores occur which add greatly to the distress of the patient - All the symptoms are intensified. The dyspnea increases and the patients sunken eyes, emaciated frame, and ghastly features, too well betoken, to readily attest, that he is nearing that bourne from

When no Traveller returns.

Causes and Nature of Phthisis

Phthisis appears to depend on a peculiar tuberculous diathesis. Nearly allied to Scrofulous diathesis.

As to predisposing causes. Inheritance is undoubtedly by far the greatest. Cold when long continued appears to act both as a predisposing and exciting cause. The abuse of Mercury is ranked as one of the Exciting Causes. Insufficient diet, Ulcers or wounds which tend to drain and debilitate the system may act as predisposing causes.

Exciting Causes — Age appears to act as an exciting cause in this disease. It seems to attack preferably from the age of puberty up to thirty five.

But any age is liable to it— As to sex— Women are more frequently affected than men. But this may be readily accounted for on the grounds of occupation Sedentary habits &c.

Pregnancy once thought to useful in controlling this disease is now asserted to be without effect— Inhalations of acrid vapours, Inflammatory thoracic or chronic thoracic diseases may call into action a slumbering tuberculous diathesis. Persons of Sedentary habits, whose business requires them to be within doors mostly are peculiarly liable to be affected. Residence in a cold damp climate is unfavorable to consumptive inclined patients.

Diagnosis — This is not so well
made out in the very first Stage
the circumstances and ancestry of
the patient would greatly aid in our
diagnosis. Thus if we find a patient
with a slight cough, frequent pulse,
fevers, hectic flush sometimes, gradual
emaciation commencing, and he tells
us that his family have suffered or
died with Consumption. We will not
hesitate to declare that he is in the
first Stage of Phthisis, and if we
find dulness on percussion about
the clavicle it will tend to make
"assurance doubt- sure"
In the second Stage all the symptoms
are intensified with the signs of a cav-

ity within the breast- From pneumo
nia this disease is distinguished by the
want of the rusty viscid sputa, by the
occurrence of ~~Consumption~~ Hemorrhage,
by which some practitioners declare they
can alone diagnose the disease as consumption, but we should be careful to
distinguish this from vicarious Men-
struation, In pneumonia the lower
lobes of the right lung is most fre-
quently affected- From bronchitis
phthisis is known its frequent false
it's want of severe fever, its general
emaciation and slow progress-

Prognosis-

The prognosis of this disease is decid-
edly unfavorable, particularly so

When the Tuberculous taint is inherited
Still one has grounds for hope when
the patient is ready and willing to fol-
low the ~~Patient~~ Physician's advice.
When the disease at times puts on an
ameliorated condition, and when its
progress appears to be slow
Hemorrhage is by no means a fatal
sign. Nor does it follow because the
patient has a cavity in his lungs that
he must necessarily die. On the contrary
if we find the cavity putting on a
healthy secretion, and if we can check
the further deposition of Tubercle. there
is good grounds to hope for a favor-
able termination. The general duration
of phthisis is from nine months to two years.

Treatment-

There are two obvious indications in Phthisis the rationale of which is very simple- They are first to prevent the further deposition of tubercles, Secondly to obviate and guard the system from danger accruing from those already deposited, To fulfill the first indication, there is nothing so good as Exercise in the open air, Exercise that will keep both body and mind employed. Horseback' Exercise is generally preferred, and walking is always accompanied with good effects. For the second indication we want a tonic, something that will support, strengthing, and Enervate the system.

Various have been the remidies tried for
this scourge of the human race,
Mercury, Iodine, Sarsaparilla, and Num-
berless other remidies have all at one
time or other found their laudators
I do not think it much to be expected
from any remedy as a Specific in
this disease. Tonics have invariably
been found useful, among them al-
cohol has many ardent supporters, and
with much better foundation than
most of them- It is an ascertained
fact that confirmed drunkards
scarcely Ever die of Phthisis-
Why then is it that the Scientific Phy-
sician Cannot take in hand this
remedy and Exert it to the use of

his suffering patient, the fact that its abuse is likely to follow from its use. I know from a material objection. But are we not justifiable in resorting to it with the hope of relieving our patient from many weary hours, and sleepless nights, to palliate as much as possible his sufferings, and if we cannot cure him to render life at least more endurable.

Alcohol acts as a tonic with apparently a particular tendency to the digestive and nutritive functions. This is clearly shown by the corpulence and obesity resulting from its long continued use. We do not pretend that alcohol is a specific in Phthisis

But it is our humble opinion that its claims as a tonic has been overlooked in this disease. We know that consumption is attended with great emaciation and derangement of the nutritive functions, We know that alcohol by its assimulative power to the blood and tissues is excellently adapted to support the nutritive functions. How does Cod liver oil act? Why simply by its tonic effect. Therefore upon that as far as it goes hinges its asserted supremacy to alcohol. There is another way in which alcohol acts and I cannot but think it does a deal of good. It is asserted by the opponents to the

use of alcohol that the disease still goes on, that the deficit of tubercles is not stopped, which by the overwhelming stimulant use of Alcohol the patient is unconscious of his danger— Even if this be true does it enhance the patients ultimate danger; do the friends of Cod liver oil claim that it will prevent further deposition of tubercles by its own inherent action? And still further does not alcohol beneficially act upon the patient by the reaction of his true condition upon his mind. But they may say in Phthisis the patient is always in a hopeful state of mind, and therefore we have no use for the con-

ployment of this remedy. I do not think this is so - The apparent lightness of the patient's mind proceeds from specific action from lesions on the brain. On the contrary it proceeds from a natural aversion and reluctance to acknowledging that he is the victim of disease thought to be always fatal -

Besides there is little pain the patient is generally able to take exercise until within a short period of his death. He has times of amelioration, though alarmed for his safety, cannot but hope for the best.

Should we not Encourage this hope, And in alcohol is no hard a remedy which sustains this hope, but not I think

without Some foundation -
How far the principle of Moral obligation will go in allowing us to prescribe this remedy is another phase of the question - But I think it is the first duty of a Physician to try to save life. And in so terrible and fatal disease as this is he not justifiable in resorting to this as a remedy which may palliate or relieve the harassing anxieties and sufferings of his patient. When perhaps he tried numbers of other remedies without effect But in administering this remedy let the Physician warn his patient of the direful consequences which result from its abuse. Let him solemnly

impress upon him that only as a medicine can it be beneficially used. And if he is a man of moral courage, and stability of mind, he will successfully combat the growing taste which he may have contracted. Alcohol may perhaps have mastered his disease, And he as a man will find victory over alcohol.

I have been thus minute in my opinion as to alcohol as a tonic in this disease because I have seen several cases of reported phthisis in which it seemed to have the happiest effect. Cod-liver oil has come into general repute and I would be unwilling to resort to alcohol, without

first giving the Oil a fair and ample trial. In the first Stage, or as a prophylactic, the infusion of the common wild Cherry bark will be found to act well. If it in this proves Fruitless we must use Acetate of Lead and opium. Sometimes the Common Chalk Mixture will prove efficacious. For night Sweats Sulphuric Acid will be the proper remedy. Sometimes Opium in the body before retiring with Warm vinegar, or Malt Solution of the Acetate of Lead will prove beneficial. Hemorrhage Can be checked by Common Salt, by the Acetate of Lead with opium, by Sulphate of

Copper, and oil of Turpentine
In the last stage when the debil-
ity is very great, Whey made of wine
and other Stimulants must be re-
sorted to, Among the best is the
combination of brandy with a fresh
Egg. a Sip of this should be taken
whenever the Patient feels any
uneasiness, and is far better
to relieve the Cough than most
of the remedies proposed.
In order to allay pain, and
palliate as much as possible the
sufferings of the Patient, Opium
is our Shut in chor. It should be
given in small doses as will be
likely to produce the required

effect always alternating with other remedies which are likely to keep in unimpaired the susceptibility of the patients system to its use. As to intercurrent diseases they should be treated as idiopathic, always with due regard to the primary malady, and the debilitated state of the system.

It is in the prophylactic treatment of this disease that our art, or our precepts are most useful. Patients whose children are likely to be the victims of this fell disease, should be cautious as to the residence, mode of living, education and occupation

always having in mind that
Exposure does not harden
the system -
The remedies which have been men
tioned are some of the principal
means by which we may endeavor
to avoid the fellow of the patient
dying of Consumption.
Sometimes very little pain is felt at all,
the intellect remains free, and the
patients are generally sanguine
about the issue of their disorder.
Nausea and vomiting often occur,
and they are a source of great annoy-
ance to the patient. When these symp
toms last long, and are attended by
pain and tenderness of the Epigastrium

they denote a thinned and softened condition of the mucous membrane, They may be alleviated by a few leaches, by a blister - by the effervescing draught, or prussic acid may be used - This is a medicine which tranquillizes an irritable stomach, and it now and then seems to allay an urgent cough

In summing up these general remarks on Phthisis, we would add that there is no disease in which all the patience of a Christian, all the energy of a man, all the skill and benevolence of the Physician is more requisite than in this

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An
Inaugural dissertation
upon
Opium,
Submitted to the examination
of
The Provost, Regents
&
Faculty of Physic
of
The University of Maryland
for the Degree of
Doctor of Medicine
by
J. W. Magruder
of
Maryland

Feb. 1862.

I do not purpose entering into any lengthened details of this fa-
-mous drug; that it is famous, any one may assure himself, by men-
-tioning the name to the most illiterate, who, if asked the ques-
-tion, Have you ever heard of a medicine called Opium? would, in all probability, answer, by a smile of derision. That it de-
-serves this fame, is made certain by the position it has held for so long time. It was held in so great favor by the immortal Sydenham, that he said, "it is so necessary an in-
-strument in the hands of a skillful physician, that the art of physic would be defective

and imperfect without it;
and whoever is thoroughly ac-
-quainted with its virtues, and
the manner of using it, will
perform greater things than
might reasonably be expected
from the use of a simple
medicine."

Opium. is the concrete juice
of the Papaver somniferum
or white poppy. The poppy
is an annual plant, growing in
various parts of the world; it
flowers in diffent countries
according to the climate. In
this it flowers in June and
July. Its greatest height is
from five to six feet; every
part of the plant contains

a narcotic juice, but as it is found in more abun-
-dance in the capsules or seedpods, and is more easily collected therefrom, it is from these, Opium is obtained.

The mode of procuring it, is as follows; when the large cap-
-sules are about half ripe, lon-
-gitudinal incisions are made in their sides, just deep enough to divide the external part without penetrating the seed cavities, This operation is performed in the evening.

If the incisions were made in the day time, while the Sun was shining on the plant, a cicatrix would be formed in a

very short time, which would prevent the juice from flowing; on the other hand, if made in the evening, the nightdews by their moisture, favour the distillation.

Early in the morning, this juice is collected with a small iron scoop and deposited in earth-en pots, where it is worked with wooden spatulas, in the sunshine, until it becomes of proper consistence; it is then formed into cakes of different sizes, and laid in small earthen basins, to be further dried.

As found in the markets, Opium, is in masses of va-rious sizes, of rague and of

compact texture; its col-
-or is reddish brown or
deel fawn; the odor is
peculiar and narcotic;
taste bitter and acrid.
When exposed to the air,
it becomes hard, breaks
with a shining fracture
and yields a powder
of a yellowish brown color.
It is frequently adulterated
with cowdung, sand, ashes,
extract of liquorice, &c. &c.

It might be supposed
that a medicine of so
much importance as Opium,
would have been examined
very minutely by Chemists;
and it has been. Chemists

of all ages and of various reliability, have busied themselves, with most untiring energy, (or curiosity) in finding out the active principle or principles, and in what manner they produce their peculiar effects on the animal tissue.

This assiduity has brought to light, a wonderful variety of substances, so numerous that if all were even named by me, you might think this, an index to some Dispensatory. Morphia, Narcotina, Codeia, Narceina. &c. &c. have been extracted with more or less difficulty from Opium. Of these Morphia

stands at the head of the list, as regards therapeutical importance. This sub-stance was discovered by Seguin in the year 1804, and about the same time by Sertuerner, who several years after named it morphine; he also found that it existed in com-bination with an acid which he called Meconic. It differs but very little in its effects from Opium. It is said to be less stimulating, less sudorific, and not as apt to check the secretions, as opium. It may, therefore, be used in those diseases, in which

these effects are contraindicated.

Opium, affects the system in two distinct ways, first, as a stimulant, second, as a sedative; it matters not how large, or how small the dose these two effects are always produced, when it affects the system at all, I say, "when it affects the system at all", for there are certain diseases, in which, most enormous doses, have been taken without producing the slightest effect. When its full stimulant action is required, it should be given in small and repeated doses, when its sedative action, a large

dose repeated if necessary.

Opium, by reason of its power to bring peace to the tossed and troubled soul, has been and is utilized, to drown the monitions of the too acute conscience, and thus make smooth the angry waters of the angry deep.

When used for this purpose it is taken in small doses frequently repeated. The effects do not come on suddenly, but steal softly, gently over the body and mind together, making the life happy which was gloomy

before, and seems a blessed spirit sent to soothe a troubled hour. When taken in this manner, (in small doses) the pulse is increased in force and frequency; the energy of the system is increased; the ideas flow more rapidly; beautiful visions flit before the eyes;

The mind soars from this vale of barrier far, above,
And sees bright angels float around a throne of love.

This happiness is, however, short lived; could it but last forever, no one would suffer the slings and arrows of out-

-vageous fortune, but would feast him in this Domum Dei, and forget his care.

The dose if not continually renewed, soon wears itself out, and he, who took it sinks into a calm and quiet sleep. Sometimes the sleep is not so calm, but dreamy. On awaking he feels some nausea and headache, together with slight tremors; the appetite is somewhat impaired and the bowels more or less constipated. With all this, comes the knowledge of having done wrong in taking the

drug for this purpose.
Conscience, that doth "make
cowards of us all", holds up
before the uncomfortable
man, a mirror, wherein
he may see his sin. I
have tried the effects, but
the little pleasure I found
did not compensate me
for the pain of body and
trouble of mind, which was
experienced on the follow-
-ing day:

It would be utterly
useless for me to attempt
a consideration of all the
diseases in which Opium
is applicable, I shall
therefore only mention

the most important.

In fevers, it is used continually; but for various purposes, according to their character and the condition of the system. In the Intermittent it is used chiefly for one purpose; to arrest or to modify the paroxysm. ~~Administer~~. It should be given in a large dose, about an hour before the time of its expected return, when as a general rule it will be found to have the desired effect. This form of Fever, however, as well as it, seldom or never requires a remedy more prompt

to make the patient sleep so soundly, as not to be awakened by the severest chill possible to imagine.

In continued fevers Opium is an article which should be used with the greatest caution, and in its use every regard should be had, to the period of the disease and the actual condition of the system. Early in the disease when there is great excitement, it is certainly improper and would aggravate the symptoms instead of lessening them. In the latter stages of the

disease, however, when the inflamatory symptoms have disappeared, there is always present, debility and morbid irritability. When these conditions exist, Opium, may be used great advantage, but as a general stimulant, to support the sinking powers of the system and to calm the irritability.

Want of sleep, is one of the results of this irritability, and is a constant and distressing occurrence, in fever adding greatly to the protraction of the disease and the exhaustion of the patients. To obtain

sleep, therefore, is a matter of great importance, and by the proper administration of Opium, it may be obtained.

There is also, very generally in this disease, considerable diarrhoea, for which Opium is frequently given and with excellent effect.

In the treatment of Inflamations, it is used mainly for two purposes; to allay the reaction, which generally succeed the loss of blood; and to allay pain and irritation, consequent upon Inflamation

To accomplish these

objects it is necessary to give it in combination with others remedies, to prevent its increasing the tendency to Inflammation, which if given alone it is apt to do. Calomel and Gar. Emet. cooperate most powerfully in keeping down the too great action of the heart, and in promoting secretion. This then is the proper combination, Calomel, Gar. Emet. and Opium. the latter in full dose. In this manner the excitant action of Opium is gotten rid of, and its

soothing action alone remains.

In Delirium Tremens. enormous doses of Opium and as a general result, if deep and long continued sleep follows their administration the patient will recover. But in this, as in all other diseases, regard must be had to the patients. If there is determination to the brain, or if plethora exist; if the bowels are loaded; the tongue foul; the skin dry and hot, Opium, should not not be given until this congestion is relieved, for it is congestion; and Opium will

only increase the severity of the symptoms. The indi-
-cations then are, first to re-
-lieve the congestion, then to produce sleep, and thus drive off the demons that fright weak mans soul. This may be done by the proper ad-
-ministration of Opium.

Much more might be said of this medicine but I refrain, for what I have said is much better told by the writers of Materia Medicas and what more, I would say will be found in their works.

Yours Respectfully,

J. S. Magruder.

An

Inaugural Dissertation

on

Pneumonia,

Submitted to the Examination

of the

Provost, Regents & Faculty of Physic

of the

University of Maryland,

for the degree of

Doctor of Medicine

by

George Brown Mackenzie

Baltimore, Maryland

February 1862.

Introduction

There are few epochs in the life of man so important as those periods at which he is about to enter the career of his profession, whatever that profession may be, Religion, Law, or Medicine; When he is about to battle for himself in the great fight for distinction and pre-eminence, and take upon himself the responsibilities attendant upon, and involved in, such an act.

Of all others, the Noble profession of Medicine, whose giant strides within the past few years have astonished the world, and been the topic of universal admiration, is fraught with the heaviest responsibilities, as human life is involved; and, in consideration thereof, before entering

upon duties so momentous, all should feel some confidence, in their abilities, to combat disease, alleviate suffering, and ameliorate the condition of those who fall under their Charge — It is a sacred duty, and should not be lightly consi= =dered, but all our best energies and constant attention should be devoted with untiring assiduity to our task — In the language of the renowned Watson "trials, no doubt, belong to it, and difficulties, but it also has privileges and immunities peculiar to itself." With a lively interest in, and love for, our profession a steady application to seek for and find out, its hidden truths a firm determination to conquer all difficulties and remove all

obstacles, we are sure to succeed -
Those truths are, in a measure, taught us in the lecture-room - it is for us to stow them away in the Chambers of memory and in after years, test for ourselves, their practical worth and utility - Believing therefore, the true purport, of transmitting to the examination of the Faculty of Physic of the University of Maryland an Inaugural Dissertation, to be merely a means of testing the attention and assi=duity with which the several members of this Class have pursued their Studies and profitted thereby, I will tax your patience no longer, save with a few prefatory remarks - As our observa=tion and experience have been limited

and our knowledge chiefly derived from
books, the facts herein stated can only
be corroborated by us in part, hence the
merits of the thesis can only depend
upon the fact, as to whether in our
intercourse with our "Alma Mater,"
we have drawn in at her fount, the
useful knowledge with which her
waters are ever imbued, and have
culled, as we passed, the fresh
and blooming garlands which bedeck
her banks. Hoping sincerely
therefore that you will accord me
in this attempt, that sympathy
which has ever characterized
your every act towards me, and pass
over, nor view with a "Critics Eye."

the many faults and discrepancies with which my feeble efforts must necessarily abound, I submit to your perusal my thesis on Pneumonia. I have chosen this as my subject, not that I can in any wise add to information already gained, or give any new ideas and modes of treatment to be pursued in its removal, but simply because I have had an opportunity of witnessing a few cases, which will enable me the more fully to state, and in a more concise and intelligent way, its symptoms &c.

Of all the diseases which "human flesh is heir to," there is probably no one more prevalent than Pneumonia; and from the fact of its locality, and the importance of the structure it attacks, there necessarily belongs to it a peculiar interest. Pneumonia essentially consists in an inflammation of the parenchyma of the lungs, including under that term the minute cellular structure, and bronchial tubes, together with their connective tissue. Cellular, Areolar and filamentous as it has been designated, all, however, having the same signification. Since the great office which the lungs have to perform, viz: respiration, the aeration or oxygenation

of the blood, fitting it for the proper nutrition of the tissues, and eliminating from it in part the material of decay, it embarrassed in this disease, a proper appreciation of its true nature and nice discrimination in diagnosis, are necessary requirements— Taking these things, therefore, into consideration it seems to me the more tenable plan to state, first the pathological lesions and morbid phenomena presented after death, as we will be the better enabled to fully comprehend the disease, and consequently, to treat it scientifically and on true therapeutic data—

Pathological Lesions discovered after a fatal case of Pneumonia--

As there exists three stages in the disease now under consideration, it is sufficiently obvious that the phenomena presented by a post mortem examination, will vary according to the period of the patient's illness, and also the stage in which life became extinct, therefore to render their description more easy and convenient the same plan will be adopted which will be followed, when we speak of Physical Signs. Pneumonia has received different appellations according as it attacks a portion or lobe or the entire lung, the former

being called "Lobular" which occurs most frequently in children, the latter "Lobar." The last mentioned is by far the more common and has developed during its course three definitely marked Stages, Viz; first Congestion, 2nd inf=lammation with hepatization, 3rd Pur=ulent infiltration, In the first ins=tance the Capillaries become congested, and the lung, though consequently heavier, and more compact, still floats when plunged into water;- if pressed between the thumb and fore finger, Crepitation is distinctly felt; and, it is at this stage in which we detect that peculiar modification of the respiration Pathognomonic of the

affection, which will be alluded to further on. The term Splenization has been given to this stage from its fancied resemblance to the spleen being readily torn. As the disease advances, there gradually is developed the second stage or hepatization. This is characterized by redness exteriorly, which when cut, however, presents a mottled appearance; owing to the products of inflammation being effused, there results an increased density of the lung; so much so that it will no longer float, evinces indicating the entire absence of air; Crepitation being, therefore, totally abolished.

in the establishment of the third Stage named Purulent infiltration, gray softening, the color of the lung gradually merged from red to a yellow, drab, or fawn color, indicating the formation of Pus. This soon diffuses itself over the entire lung, and by making incisions or punctures as ready exit is given to the contained Pus.

Symptoms of Pneumonia.

The disease is usually ushered in by a chill followed by fever, dry hot skin, anorexia, cough occasionally pain in the side, though this is not an invariable accompaniment. Catarrhal symptoms

though rare, sometimes occur; and if pro=
=dromes of the other symptoms, are of im=
=portant significance - The aforegoing
symptoms having manifested themselves,
others now appear, which are of material
importance in detecting the malady - Viz;
the expectoration of a Sputum specially
characteristic of the disease in question -
this has been designated by various terms,
as the "rusty Sputa," brick-dust &c.
It is very tenacious and viscid, and
adheres to the bottom of the vessel, when
turned upside down - is intermixed with
blood, hence its peculiar color - It dif=
=fers from the Sputa sometimes met
with in bronchitis, in that, it is more
tenacious, while that of bronchitis is

merely Streaked with blood, and is filled with bubbles of air, i.e, frothy-Pain, so characteristic of most inflammatory aff=ections, is not an invariable accompaniment of Pneumonia; and is never of a gravity which we would naturally expect from an inflammation so profuse, and affec=ting an organ so vital in its function and of so much importance — It differs from most inflammatory affections of an acute character, being sometimes of a dull and aching kind instead of the acute and lancinating pain which is almost an invariable consequence of acute inflammation — There is a Man=ifest difference when both lungs are affected, as respiration is then materially

interfered with; and there necessarily results an embarrassment in the proper performance of the respiratory function — This sometimes, under these circumstances, becomes so urgent, that the patient is forced to assume an upright position, being unable to breathe sufficiently free when lying in a horizontal position — This peculiar sensation had been appropriately designated "Dyspnœa" (δυς, πνεω) signifying difficult breathing — This symptom is oftentimes painful to behold; the face becoming suffused, the color livid, the expression agonizing in the extreme, and the poor sufferer gasping for breath — the whole appearance of the patient being intensely painful —

Should relief not now be obtained, death closes the scene — Death sometimes results at a later period, from the excessive secretion of sputa, which cloggs up the bronchi, and which, the patient being weak and exhausted, is unable to dislodge — the air being thereby prevented from gaining access, and death being, therefore, the necessary sequence — The sputa changes, as the disease advances to the third stage, and assumes the color, commonly denominated the "prune juice," or "liquorice water" sputa — It not so viscid as the rusty — The recession of the third stage is diagnosticated by the appearance of purulent expectoration, denoting the gradual softening and

suppuration of the lung tissue — We see, from the above, that the expectoration plays an important part in the diagnosis of Pneumonia, and it probably the only means for assuring us absolutely of the advent of the last stage — Fever is an invariable accompaniment, the disease never occurring without an initiatory fever — This varies, of course, according to the character of the Pneumonia; though generally in every type, the pulse ab initio, manifests high vascular action, which, however, changes in the course of the disease as its sthenic or Asthenic tendency manifests itself — It is strong and full at first and sometimes frequent,

though not always. The blood usually presents the characteristic phenomena of most inflammatory affections, viz. buffed and cupped when coagulated, though experience has shown that this is not infallibly pathognomonic of the existing inflammation. The tongue presents variable aspects, being sometimes coated with yellowish-white fur, at other times presenting a dry and red appearance. There are other symptoms attendant upon the disease, which, however, are not invariable, such as nausea and vomiting and diarrhoea &c. Forming the foregoing remarks sufficient with reference to the symptoms. I pass

In the consideration of the Physical
Agents –

Physical Signs — Although a due regard should always be had with reference to the symptoms, yet in this affection our only sure and reliable means of forming a correct diagnosis consists in percussion and an auscultatory examination of the chest. Those symptoms above enumerated, when taken in conjunction with the Physical Signs, characteristic of Pneumonia, will enable us with absolute certainty to state the true nature of the malady. There are different signs which present themselves at various stages of the disease, hence to obviate any embarrassment in their enumeration, they will be noticed in the precise order in which

they are severally manifested. In the first stage, or that of engorgement, or pneumonia, there is no evidence afforded of any material change in the state of the lung, the sound, however, being less clear than natural, and resonance slightly increased. But by auscultation we have our chief source of forming a correct estimate of the existing disease, this is furnished by the establishment of what is familiarly known as the "Crepitant rhonchus," supposed to be dependent upon the bursting of extremely small bubbles of mucus in the air vesicles and smaller bronchi" (Barth & Rogers) This has been likened to the sound produced by rubbing

a lock of hair between the thumb and finger; other examples to set forth the precise nature of this sound have been furnished by numerous authors, but the foregoing from my limited experience seems to designate it more satisfactorily than any other. Owing to the establishment of the second stage, viz. that of hepatization, the normal respiration is abolished in consequence of the closure of the air cells dependent upon the solidification of the lung, giving rise to the peculiar sound known as tubal or bronchial respiration. If the ear be applied over the region of the heart there will be noticed an intensity

of the heart's sound, owing to the fact that solid matter is a better conductor of sound. By the application of ear to the chest and the patient requested to speak, there is conveyed to the auscultator an increased vocal resonance, owing to same cause above mentioned. From what has heretofore been mentioned the change in percussion can be readily conceived, increased density of the lung and occlusion of its air cells and minute bronchi necessarily produce a sensible modification in percussion sound, characterized by excessive dulness and total absence of resiliency. This dulness may be manifested over the entire lung or merely

a part, as we frequently notice the development of the second stage in some portions of lung, ere the first has run its course. The third stage, familiarly known as suppuration (Laennec), purulent infiltration, (Watson), is characterized by the same sounds which indicate the second, hence its existence is frequently difficult to determine, and therefore its incipiency can only be determined by the duration of the disease, and by the expectoration of the purulent matter.

Causes of Pneumonia are such as give rise to most inflammatory affections as cold, vicissitudes of temperature, and suppression of perspiration, excessive

use of the voice, exertions of any kind which accumulate blood in the lungs, retrocession of Gout or Rheumatism, sudden disappearance of Cutaneous eruptions, and among the occasional causes. Of the predisposing causes, Cold is considered to be the most prominent. It may also be produced by wounds of the chest penetrating the lung, and thereby giving rise to inflammation of that organ. Having considered at sufficient length the causes &c, there only remains to be considered the Diagnosis and Prognosis, concerning which little need be said. The only affections with which Pneumonia is liable to be confounded are Bronchitis

Pleurisy and certain stages of Phthisis, from the last mentioned, the general condition of the patient and history of the case, will be sufficient to enable us to distinguish it. From Pleurisy, it may be readily distinguished by the severity of pain and the auscultatory sounds presented in that affection: but, in as much as the treatment in the early stages is very similar, and owing to the fact of the frequent participation of the Pleura with Pneumonia, the diagnosis is not absolutely essential; with Bronchitis, however, there is sometimes more difficulty presented, especially when the minute bronchi become involved, but as Bronchitis

is a necessary accompaniment of Pneumonia it is of very little consequence to distinguish them;- should that be desirable, however, the Physical Signs and Percussion will afford us a sure mode of discriminating between them: On the inception of an attack of bronchitis instead of there being manifest fine crepitations characteristic of Pneumonia, we have developed dry Sibilant, and, at a later period, moist rhonchus; the distinct features of rusty sputa of Pneumonia are wanting, and in their stead a pearly and abundant mucus is expectorated. If further proof be required, percussion will satisfactorily settle the point, provided the

Pneumonia has advanced to the second stage — Prognosis — Though justly considered a formidable disease, and one requiring prompt and active treatment, yet we have every reason to expect a favourable issue, provided no complications with, and the proper measures be strictly adhered to; hence we should pronounce the Prognosis favourable —

Treatment of Pneumonia —

Owing to the lack of Pneumonia, occurring idiopathically and as an accompaniment of various diseases, it would probably be better to consider it

primarily as it occurs without any complications; after which the subsequent treatment will be more obvious and facile.

As Pneumonia in its primary stage, is characterized by excessive congestion of the pulmonary tissue, thereby materially interfering with the due performance of its legitimate functions, Common sense, reason, and long tried experience would dictate, the removal of the cause thus so unfavourably acting. We know that it has long been one of the Cardinal principles of Medicine, an "Aphorism", from the time of Hippocrates and Osculapius himself, that the only effectual mode of preventing an effect is to

remove the cause; and as the effect of pulmonary congestion is not only to embarrass the lung, but also to produce an alteration in its structure, by which it is impossible for it any longer to act in the aëration of the blood, all the principles of a sound therapeutics would seem to agree in the removal of a cause, so deleterious and destructive in its tendencies — And although the Medical world has been rife, of late, with the "dogmas" of Bennett, Todd and the like, with reference to the treatment of Pneumonia, I prefer adhering to the experience of ages and the dictates of reason — To deny that disease has a tendency, ultimately, to weaken and

debilitate the system, would be injurious folly, as these Gentlemen very justly remark, but to stimulate a person ab initio, where there are obvious reasons to prevent an opposite and directly antagonistic course of treatment, and especially where there is manifest danger of Organic Change and the disintegration of lung tissue, is as equally unreasonable as it is foolish— To illustrate— In the first stage of Pneumonia, there is a considerable afflux of blood to the lung affected, thereby producing a distended state of its Capillaries and Congestion of its tissue, which obstructs the entrance of air, and therefore the proper oxygenation of the blood— add to this

the embarrassment of its functions as an organ of respiration &c., and there is established a state of trouble & oppressing — Now, the effect of stimulating a patient under these circumstances, would obviously be, to increase the existing congestion and augment the trouble, by the larger amount of blood, which, as a necessary result of the stimulant, is sent to the lungs from the heart, and the greater rapidity and force with which it is impelled — It is difficult to conceive how such action can do otherwise than add to the existing misery, and hence its inapplicability at this juncture —

From the above it would appear that

a disease characterized by such vascular excitement as Pneumonia would bear well, and be materially benefitted by, blood-letting. To effect this object, there are several modes viz; venesection, leeching, cupping &c. The patient being now placed in a sitting posture, and the necessary arrangements having been made, blood may be taken from the arm to an extent demanded by the exigencies of the case. As disease assumes under so many phases the Practitioner must be the judge of the requisite quantity to be taken; - should the heart's action after first bleeding manifest a degree of high vascular action, a second bleeding may be resorted to, and in this

as in the former, the same cautions must be observed. The object in view having been effected, our attentions must next be directed to the other means included under the head of Antiphlogistic remedies;- The best means afforded for effecting this purpose are; Purgatives, artificial Sedatives, diaphoretics &c. An active Cathartic of Calomel and Jalap, or the Compound Cathartic pill should now be administered, and after the bowels have been thoroughly evacuated, it will be sufficient, merely to keep them open once or twice a day, which must be effected by a Saline Cathartic; Ol. Ricini, Magnesia, or by enemata. An alkaline Cathartic being indicated if

acidity of the stomach exist. The next best agent at our hand for fulfilling the remaining indications is, tartar emetic, combining as it does a diaphoretic with its sedative powers, given in doses from 1/12 to 1/4 of a grain, at short intervals. This remedy has been found to exercise a most beneficial influence. Should there be present dry and hot skin, it may be advantageously combined with the nuetral mixture or nitre, and if it act unduly on the stomach, it may be suspended for a time and substituted by the effervescing draught; & by the above means we obtain the results required, and there appears to be a decided amelioration of the symptoms, we may

direct our attention to other symptoms, of
less importance, but which must, never=
=theless, be attended to, such as cough,
wakefulness, and the usual accompani=
=ments of all febrile affections! to render
the cough less harassing, and, at the
same time, the expectoration more easy,
the following combination, Opium gri
Spirae gr xj- Calomel gr ij may be given
at night in the form of pill-
The advantages of this combination are
threefold; it procures rest for the pa=
=tient, and an alleviation of the pec=
=toral symptoms,- directs action to the
skin, and lays a foundation for a
Mercurial impression should this
be deemed advisable- The above is

the treatment applicable to the first stage, and should the disease be cut short at this juncture, nothing will be required save the continuance of the measures already mentioned, though in a more moderate degree,'- if, perchance, however, that favourable result be not obtained, and the disease passed into the 2nd " stage, other means for combatting the symptoms there presented must be instituted.
We have before stated that in this stage the lung undergoes solidification, and hence arises the necessity for adopting measures to promote the absorption of fibrinous material if the blood there expended -

Experience had shown that the best means we possess for bringing about the result required is Mercury; the absorbent power of which is equalled by no other drug in the Materia Medica — A slight mercurial impression being now desired, Calomel may be given in small doses frequently repeated To prevent its passing off from the bowels, if not contraindicated by Cerebral symptoms, Opium may be advantageously combined with it, and at same time Spirae may be added with a view to the promotion of its diaphoretic powers; it is more desirable to produce profuse ptyalism, hence the necessity to stop, or diminish the dose as soon as the mercurial impression is manifest, which

may be easily detected by the odour of the breath, soreness and tenderness of the gums, with an increased flow of saliva. Counterirritation is an important adjunct to the above treatment; nothing seems to fulfil the indication better than a large blister applied over the diseased lung;- care must be taken that there exists no fever at the period of the application of the blister, as it would tend the more to aggravate the symptoms by the irritative and subsequent itching it occasions; The foregoing treatment will suffice for the second stage as far as medical aid is concerned, but the patient should be carefully watched, and the constant

surveillance of the attendant strictly en-
-joined. It generally happens that we are
not summoned to a case of Pneumonia
previous to the establishment of the
second stage, the symptoms of the first
not being of sufficient gravity to
seriously affect or enlist the attention
of the patient; and, therefore, we are the
more likely expect the establishment of
the third stage, particularly, if the
second has not been properly treated
"ab initio". In the event of this happ-
-ening, our efforts should be mainly
directed to facilitate the expectoration
of the purulent matter, and alleviation
of the harassing cough now established
To effect this result expectorant medicines

of a stimulating character should be prescribed; such as Syrup's Senega, &c Should the nervous or circulatory system indicate a perturbed state, measures for combatting them should be instituted - Should the disease still pursue its course, and its symptoms become aggravated, recourse must be had to stimulants, Tonics, and nourishing diet - For the purpose of supporting the declining powers of life - Carbonate of Ammonia, bark tea, and if the patient have been of intemperate habits, the stimulus peculiarly adapted to his condition, should be given. Wine whey, oil of turpentine and Sulphate of Quinia, are useful agents, when their

administration is particularly called for; though the latter is more useful as a tonic in the convalescence, being not of sufficient stimulant power to effect the result now called for —

Pneumonia is very frequently accompanied by symptoms which are particularly prominent, in some cases, hence the term, when hepatic complications exist, of "bilious Pneumonia." The treatment of this variety is not materially different from the uncomplicated Pneumonia, Mercury, however, being more urgently called for — This complication generally happens in districts of miasmatic character, or where the patient has been subjected to the peculiar

influence of malarial poison;- Generally speaking it is of a less acute character, and bears better the administration of tonics, and especially, Quinine, the administration of which is more urgently called for on account of the intermittent character of the affection. Another variety under the name of "Typhoid Pneumonia," is not unfrequently met with, particularly in those of broken down constitutions, or in females of Cachectic or Chlorotic predispositions; we must not be understood to mean by this the usual accompaniments of Typhoid fever, which, is more frequently a sequela of Typhus than Typhoid, bronchitis being its more frequent attendant, the above often

giving rise to much confusion.— This, as its name indicates, will not bear the abstraction of blood by venesection, though local depletion is very generally called for, and well borne.— The administration of tonics is resorted to at a much earlier period in this than in any other variety of the disease.— Extreme care is requisite to prevent any untoward complications, as the convalescence is tardy and fraught with many critical stages.— There still remains another variety which is designated as "Lobular, or Infantile Pneumonia", from the fact of its occurring almost entirely in children, and, of which, little need be said; as it is met with in children

too young to employ depletory measures of a general character, the application of leeches here is, however, of immense advan= =tage. The remedies used in other forms of Pneumonia are applicable to this; an emetic of tartar emetic being often bene= =ficial at the outset, from the known sympathetic participation of the abdom= =inal viscera of children with the thoracic

Having extended at sufficient length to the treatment of Pneumonia, it only remains for me to say a few words in conclusion— There are regrets ever attendant upon the Student in severing his connection with his "Alma Mater"; and in my own case particularly so, as during my attendance upon the Lectures my relations have always been of the most friendly and kindly character— Permit me, therefore, to assure you, of my high appreciation of your valuable instructions, and the many acts of Kindness and courtesy ever extended me— And in surrendering the ties which bind me, and when leaving her hallowed precincts, to take upon myself the duties and responsibilities of life, — I shall often

revert with pride and satisfaction to those who have labored for my welfare and have taken so deep an interest in my future success. Hoping, therefore, that that success and emoluments may attend you, which your efforts and talents so justly entitle you to attain, I bid you a good farewell —

Geo. B. Mackenzie

An

Inaugural dissertation

on

The Foetus

submitted to the examination of

the Provost, Regents & Faculty of Physic

of the

University of Maryland

for the

Degree of Doctor of Medecine

by

George A. Nicolassen.

The development of the foetus.

The Foetus.

Among the subjects the investigation of which have engaged the minds of the profession of modern times is perhaps the most interesting that of the development of the foetus and the process of the reproduction of our race.

To the practitioners of the last century yet it was an essential mystery from which man could not or dared not lift the veil Nature had thrown over it. But the energetic spirit of the latter years would not rest until he had gained admittance to the very holiest of her

secret labratory; and now the mystery is dispelled: Nature's most beautiful operations are disclosed to our eyes.—

When a bountiful Providence created Man she provided him with all the means necessary for his subsistence and surrounded him with all the beauties of nature to delight his senses. But this was not enough; to fill the measure of his bliss he wanted a companion to participate in his pleasures. „It is not good that man should be alone," spoke God. Besides he was created mortal and soon his race would be extinct; therefore this companion must be a woman, for the union of the two sexes was necessary to propogate the species. And God blessed them: „Be fruitful and multiply and replenish the earth." How beautifully did he adapt for that purpose the

one for the other. Man he furnished with an organ to carry the semen into a canal leading to the womb with which woman was provided for the retention of the ovum, its fecundation by that semen and the nutrition and maturation of the new being developed from it. The spermatozoa, the active principle of the semen, are brought into contact with the ovum and thus the powers of life slumbering there are awakened. It is the latter which engages our more immediate attention. What is its essential nature. Whence does it originate? What are its constituents? What the changes, that occur in it after its impregnation? All these are questions which naturally propose themselves.

I will try to answer them.

In the iliac region of the abdomen

may be found in the posterior fold of a duplicature of the peritoneum, known as the lateral or broad ligament of the uterus, an organ (improperly called a gland): the „ovary", the analogue of the male testis, attached to the womb by its own ligament: the „ligamentum ovarii". A fibrous membrane forms its proper coat, the „tunica albuginea". Its interior is composed of tissues interlacing and intercrossing with each other in various directions, leaving between them small spaces or cells, which structure is called: its „stroma". In these meshes may be discovered with a low magnifying power from an early period of life little vesicles which after De Graaf by whom they were first pointed out to the profession have been named: the „Graafian vesicles". These little bodies are invested by a thin, fibroid, elastic

the „zona pellucida" from its transparency; the „first chorion" (of Bath), because it is the first envelope of the future embryo. It contains, as stated above, the „vitellus" or „yolk", floating in which a minute vesicle is detected: the „germinal" vesicle, which is filled with numerous granules, one of which, more prominent and developed than the rest, is designated as the „germinal spot."

This then is the minute anatomical structure of the ovum, the germ of the new being, and its protective surroundings, as seen under the lens of a moderately acute microscope. —

As yet the girl is not conscious of the peculiar nature of her being, she does not suspect the great object of her life, aye, the difficult office which is hers to perform, cares for nothing but her

playmates, her dolls and picture-books. But soon she arrives at the age of puberty. The careless, roving girl becomes more sedate and reserved, the things which occupied her mind heretofore appear insipid to her now, her dolls are left to themselves, books of a higher grade are substituted for those of former years, she has wants and desires of which she knew nothing before. She is shy toward the stronger sex and flees the approaches of man. But Love comes to her aid and she is happy in the returned love of the object of her affection.

What is it that could produce such marvelous changes?—It is the magic work of nature: she has made the girl a woman.

Certainly such a wonderful result could not be effected without some great modification in the system of the female.

Accordingly we notice that more blood is sent to the generative organs, the breasts become enlarged, the pelvis expands, the labia and mons veneris assume a plumper appearance and become covered with pilous growths: indeed, her whole person gives evidence of the new type which has been impressed upon her. So abundant, indeed, is the supply of blood to the uterus that its vessels are unable to hold it: exudation takes place, constituting „menstruation": the external expression of an ovule having become fitted for fecundation. These phenomena recur now at regular periods, every lunar month, only to be interrupted by the occurrence of pregnancy. This is known as „spontaneous ovulation". It lasts from the age of puberty, about the 14th year, to the „change of life", that is, about the 45th year.

The ovula become enlarged and more highly organized, particularly those nearest the surface of the ovary. An albuminous fluid is poured out around each one successively as development advances, which, gravitating towards the lowest point, pushes the ovule upwards towards the periphery. The pressure becomes greater and greater until finally the envelopes give way and the ovule would now fall into the cavity of the abdomen and be lost, if nature had not provided for this accident by a most ingenious piece of mechanism. The "fimbriae" of the extremity of the fallopian tube are composed of erectile tissue and one of them is attached to the ovary. By the afflux of blood they become turgid, are brought in relation with its surface and grasp a portion of it firmly like the fingers of a hand. By them the esepatriated

ovum is taken into custody. They close upon it tighter and tighter until they have safely landed it at the orifice of the fallopian tube. This canal in its turn is lined by villi which by moving to and fro forward it towards the uterus. It is between the ovary and the womb that it generally receives the stamp of impregnation.

(If fecundation has not taken place after the ovule has entered the uterus, the placenta is attached much lower down than usually or even over the os giving us the „placenta praevia" or „placental presentation", if it does not occur at all, the ovule is discharged with the menstrual flow).

In the meantime the uterus has been prepared for the reception of the ovum. Its lining membrane has undergone hypertrophy and is thrown into folds, constituting the „decidua vera" of authors. Between

two of these folds the ovum is caught, as it is ushered in by the fallopian villi, and, creating a certain degree of excitation, it causes them to throw out their arms, as it were, outgrowths simply from their own structure, to embrace it. This is the „decidua reflexa" which, by the way, was formerly believed to extend over the whole uterine surface. Time, however, and better observations have proved this idea to be erroneous. — The remainder of the decidua vera, having served its purpose, has its supply of blood diminished, in order that it may be sent to a spot where it is more needed, the situation of the future placenta. The consequence is, as a matter of course, its atrophy.

The first change that can be detected in the ovum after fecundation: the first steps towards organization, is what is denominated the „vitelline cleavage" or the

„segmentation of the yolk", which is nothing more than the breaking up of the vitellus, first into two parts, then into 4, then 8, 16 etc. This halving process is continued until the whole is divided into small vesicles. Its resemblence to a mulberry has procured for it the name: „mulberry-mass". Those vesicles nearest the periphery now arrange themselves into a membrane which becomes thickened by the new addition of cells to its interior and forms the „germinal membrane" or, because from it are developed all the tissues of the foetus, the „blastodermic membrane". It soon splits into two layers: the „external", serous in its character, the base of all the organs of animal life: bone, muscle, skin etc. and the „internal", mucous, which gives origin to all the organs of vegetative life: the stomach, intestines and the like.

After a little time the external layer may be seen to curve in upon itself at one spot, it becomes indented or infolded, as it were, forming the „amniotic" or from their respective extremities the „cephalic" and „caudal" „hoods", the former being slightly the larger. With the enlargement of these folds they meet on the back of the portion enclosed, just as a moderately distended bladder would curve around a ball pressed against it. The membranes come now in apposition, become fused and the partition at length is absorbed and thus the connection is lost between this part of the serous layer and that surrounding the embryo. The former thus also loses its vascularity, recedes and becomes incorporated with the vitelline membrane to form the „second chorion", the yolk-membrane itself,

one,

it will be remembered, being called the „first".
As the amniotic hoods grow larger they in
the same manner meet over the middle of
the belly, of course enclosing whatever of
the mucous layer and its contents is between
them, constricting, yes, almost occluding the
communication between it and the „umbili-
cal vesicle", as it has been termed. The vitel-
lus serves for the nutriment of the embryo
as long as it lasts and after its absorption
(here and now for the first time) a minute
blood vessel is developed, spreading out upon
the vesicle to abstract its contents. Soon
this source of nourishment is exhausted
and the embryo would perish, were it
not for nature's watchful care. Never
do we find her negligent even towards
the smallest of her products.

In the same degree then as the umbili-

cal vesicle diminishes in size another membranous sac becomes more and more apparent about the lower part of the alimentary canal, where in after-life the bladder is situated, carrying a small artery and vein, the "omphalo-mesenteric" vessels. Passing out at the umbilical opening it rapidly enlarges so as soon to overshadow the vesicle like a tree. This is called the "allantois". It spreads out until it comes in contact with the whole of the inner surface of the second chorion, with which it becomes blended, thus forming the "third chorion" and imparting vascularity to the second.

In the meantime the outer surface of the chorion has become shaggy and covered with villi, which villi have penetrated into the tubuli of the decidua vera and lie in apposition to the maternal vessels. Those nearest

the uterine surface now become hypertrophied, and carry along a capillary artery and vein from the alantois, the others gradually disappear. They form what is afterwards known as the "placenta".

The allantois having performed its office: the establishing of vascularity in the chorion, now shrivels up and the walls of the abdomen close. The remains of it within the belly afterwards forms the "urinary bladder" and the "urachus" which binds that organ to the umbilicus.

The placenta necessarily consists of two portions: a "foetal" and a "maternal" separated by the decidua on one side and the chorion on the other. The foetal portion is formed by the villi of the chorion and their capillaries which latter communicate on one side with an artery on the other with a vein. In the maternal

portion the vessels constituting it are so greatly distended that they may be said to form a large pool of blood divided into canals by membranous partitions. Its blood is supplied by the „curling" arteries of the uterus, so named from their tortuous course. The veins unite to form the uterine sinuses.

The placenta communicates with the foetus through the „umbilical cord", the „funis" or „navelstring" as it has been variously called. It consists of two „umbilical" arteries and one „umbilical" vein, twisted around each other in a cordlike manner: the whole imbedded in a gelatinous fluid, the „Whartonian jelly" and sarrounded by a reflection of the amnion, which membrane, as has been seen, is continuous with the skin of the foetus. Its average length is about one foot and a half, sometimes considerably longer, at other times so short as

to become a serious obstacle to the progress of labor.

In the further development of the foetus among the parts first formed the spinal cord and its membranes are prominent, the canal in which it is enclosed being at first cartilaginous and afterwards becoming ossified. About the same time the vascular system makes its appearance, the heart being at first only a membranous cavity. By and by it becomes muscular until about 4½ months it is strong enough to take upon itself the duties pertaining to its office. Next in order the digestive apparatus may be discovered; the organs composing which derive their origin from the portion of the mucous layer of the blastodermic membrane, pinched off by the amnion. The liver of all the abdominal viscera is that most highly developed at the time of birth. Its secre-

tion assists in the formation of the „meconium" which will come under notice again below. The cranium and its contents are next in succession. Paticularly after the „time of quickening", that is, when the pulsations of the heart are first perceived, they rapidly enlarge.

In labor it is the solicitude of the accoucheur from its importance in the animal economy to have the head safely delivered; in comparison with it the other parts dwindle down to minor considerations.

Most singular is the manner in which the extremities are evolved. About the 5th week a hand is discernable at the butt of the shoulder, growing directly out from it, as it were, next the forearm and lastly the arm. The same order of succession is observed with the locomotive organs generally appearing a little later.

The amnion as a serous membrane secretes a certain quantity of fluid in which the foetus floats, xis known in parturition as the „ bag of waters". Its office is: to equalize the pressure upon the foetus, and to break the force of external violence. Its rupture during its sojourn in the womb is inevitably attended with the death of the child.

Having traced now the development of the foetus from a mere vesicle or cell, for such is the primitive character of the ovule, to an organized being, capable of maintaining an independent life, there remain only to be considered yet several functions which are carried on by the foetus in its intra-uterine existence. These are: nutrition and with it the peculiarities of the foetal circulation, respiration, the secretion of the liver and that of the kidney.

To the first of these, the nutrition, I have had occasion to allude to before, when spea-

king of the yolk, umbilical vesicle &c.
Briefly to recapitulate: The foetus subsists at the earliest period on the vitellus within the abdomen. Then a minute bloodvessel springs up, spreads out and ramifies upon the umbilical vesicle to absorb the remainder of the vitellus, here deposited. After this connection is established with the mother through the agency of the allantois, which carries to the chorion the omphalo-mesenteric vessels thereby rendering it vascular and capable of obtaining through its villi from the mother's system the elements of foetal life. This now becomes the permanent source from which the new being derives means of subsistence and growth. The placenta and cord are the organs principally concerned in the performance of this important duty.

What is their anatomical structure

and general character is sufficiently clear from the foregoing, it is hoped. Suffice it to say here that the placenta is figuratively the alimentary canal and the lung of the foetus, if I may be allowed the expression.

The first movement of fluids takes place towards the child through the umbilical vein which enters ~~it's entrance~~ its body at the umbilicus, runs up to the thick edge of the liver, there to divide into ~~three~~ branches ~~two~~ of which enter the liver, the other continues on to the vena cava ascendens and is known as the 'ductus venosus'. The blood sent through the liver is collected by the hepatic vein which equally empties into the vena cava. This latter vessel also returns the blood from the lower extremities. The two fluids therefore are mixed when they arrive at the right auricle. Crossing this cavity it enters

the left auricle through the „foramen ovale",
thence to pass into the left ventricle. From
it the head and upper extremities receive
their appropriate share through the aorta
and its branches. The veins of those regions
collect the returning blood for the vena ca-
va descendens which carries it to the right
auricle, whence it enters the ventricle of the
same side. The principal portion of the blood now
empties into the aorta through the „ductus
arteriosus", only so much being sent to the
lungs as is necessary for their nutrition,
the arteries at the same time being small.
The ductus arteriosus is the medium of commu-
nication between the pulmonary artery and
aorta. So large is it, indeed, in comparison with
its branches proper as to appear as the conti-
nuation of the pulmonary. The aorta then
supplies the lower extremities. It termi-
nates in the common iliacs, these again

bifurcate into the internal and external, the former to become the umbilical arteries, carrying their contents back to the placenta, there to be purified and relieved of its effete matter, the latter to proceed on their way to the extremities.

Now the most striking peculiarities and differences from the circulation of extra-uterine life which present themselves to the observer's mind are:

1, That the blood becomes mixed at several points. Only the liver receives the arterialized blood from the lung in an unadulterated state. We find it accordingly at the time of birth the organ most largely developed. The best blood after this is sent to the brain. That received by the lower extremities is of very inferior quality, conveying to them hardly more nutriment than is necessary to prevent their

atrophy.— Can we fail to notice the beautiful philosophy which underlies this arrangement? The liver whose secretions are so essential to the digestive process, receives the purest blood to fit it for the heavy duties that devolve upon it in after-life, for the child takes much more food comparatively than the adult. The brain is nourished by the next best blood, for is not its influence, whether direct or indirect, of the highest importance in the proper execution of all the functions of the animal economy? Again, if it was fed on the richest material it would so greatly augment in size as to become a serious impediment to the process of parturition thereby perhaps proving the source of its own disorganization and endangering greatly the life of the mother. The same reason obtains in the nutrition of the lower extre-

mities, besides a high grade of development is quite unnecessary here, because their function is not required until a late period of life as compared with those of the other organs.

2, The existence of the ductus venosus, so named because it is the connection between two veins and not on account of the fluid it contains for it is arterial in its nature. Its office is to convey a part of the blood in its pure state to the vena cava for the proper nutrition of the head and upper extremities.

3, The communication between the pulmonary artery and the aorta established by the ductus arteriosus conducting that blood which has just been returned to the heart by the vena cava descendens into the main channel of the circulation, still containing sufficient nutriment for the lower extremities

4, But the most astonishing of all the abnormities (or rather peculiarities) of the foetal vascular system

is the vacancy in the septum between the two auricles of the heart, the foramen ovale. Now in the right auricle we meet with one of nature's nicest and most beautiful pieces of handiwork. Into it open the two venae cavae, the one from above the other from the side sending their particular currents to intercross at almost right angles. Would not one expect a Babylonic confusion from such an arrangement? But this is obviated by the very simplest of remedial measures. She erects a valve between the two, the "Eustachian", fitting it so accurately that hardly any intermingling between the fluids takes place. An elegant illustration of this fact is furnished by those pretty preparations of foetal hearts, injected with different colored liquids made by eminent members of the profession whose exquisite pleasure it is to explore the secrets of Nature.

When the infant is born to the world the current of the blood is entirely changed. The child cries because it encounters a stimulus to which it has hitherto been unaccustomed, its lungs are inflated, a vacuum is created, the blood rushes to it, there aërated it returns to the left side of the heart. Now the overbalance of the circulation is no longer in the right. but in the left auricle and the foramen ovale is closed by the permanent pressure against its valve.

5, The presence of the placenta and its annexe is another of those peculiarities of foetal life which I have been endeavouring to exhibit. And this leads me to the consideration of the subject of foetal respiration. The blood returned by the arteries of the cord is brought in relation in the capillaries with the maternal vessels. Through their attenuated walls now is transmitted by exosmose and endosmose in one direction the useless matter, the debris from the foetal system, in the other those elements indispen-

sable for the growth and welfare of the new being, a process analogous at once to the nutrition and respiration as it appears in the body after birth.

At an early period the liver begins to secrete, although the bile proper does not make its appearance until about the 5th or 6th month. Towards the end of gestation the intestinal mucous membrane and the glands situated in the smaller portion of this canal also pour out mucus and the juices characteristic to them. These combined with the bile form a greenish-yellow mass, soft and viscid, recognized by the accoucheur as the "meconium". It has an alkaline reaction. Sometimes it becomes hard and dry, broken up into lumps, in which case its voidance is procured with difficulty and attended with a good deal of pain.

The discriminating action of the kidney is also noticed in the foetus. The urine is passed through the natural passages and constitutes a part of the

"liquor amnii" in which the foetus floats. In cases where there existed some impediment to its proper evacuation the urine has accumulated in such enormous quantity in the bladder as to burst it, the accident of course resulting in the death of the infant.

Such then is the treasure of valuable knowledge the addition of which to our beloved science has graced the modern times thanks to the ardent researches of the most enlightened of the profession and the microscope.

I have endeavoured to picture the various phases which the child presents during the several months which Eternal Wisdom has ordained that man should be with his mother, receive from her his nourishment and be developed, until he would be able to sustain life as an independent being. If I have succeeded in doing this satisfactorily my object has been accomplished.

Inaugural Dissertation

on

"Relation of Natural Science to Medicine"

submitted to the examination

of the

Board of Medical Faculty

of Physic

of the

University of Maryland

for the

Degree of Doctor of Medicine

by

A. Abel

of the State of

Penna.

1844-45.

[illegible]

Medicine.

These two sciences bear so close a relation to each other, that the latter cannot possibly be said to exist without the former: as the latter, [illegible] advances the latter will naturally follow.

The branches of Natural Science which [illegible] and [illegible] upon Medical Science are [illegible] Natural Philosophy. [illegible] seems to penetrate [illegible] of Medicine, viz. [illegible] Pharmacy, [illegible] and Pathology.

[illegible] proceed to [illegible] briefly the influence of those two [illegible] of Natural Science [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

congregates the elements into the [illegible] form; and in the animal to [illegible] [illegible] [illegible] [illegible] of nature can [illegible] [illegible] animal [illegible]. [illegible] becomes a little more excited, a closer investigation [illegible] be desirable. [illegible] such a one as the chemist can give, [illegible] them will be satisfactory. [illegible] [illegible] [illegible] [illegible] possess elements in common. For example that which we call water, consists of oxygen

emulsifying the fat. Succus Entericus also converts starch into sugar. These are real chemical actions, that [illegible] and [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible].

Nothing has promoted physiology more rapidly than Microscopy. [illegible] If our sense of seeing were [illegible] by the immense magnifying power of the microscope, we would most [illegible] [illegible] of knowing the existence of these minute [illegible] [illegible], which form the very basis, upon which the physiologist must commence. By the aid of the [illegible] [illegible] the mind becomes [illegible] of these minute bodies — by cells and [illegible] covers that they enter into the structure of every part of the human fabric. These cells being heterogeneous, i.e. those entering into the formation of nerves being of one kind, those entering into the formation of [illegible] [illegible] tissue being of [illegible] [illegible] [illegible] [illegible] tissue [illegible] [illegible]

in Anatomy & Physiology. I will dismiss these two branches, and next consider their relation to Pharmacy.

This department of Med- [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] that we cannot [illegible] [illegible] with any degree of certainty without [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] It will be manifest. [illegible] ic acid and [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] free the hydrogen and combines with the [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible]

long as it is not brought in contact with
any substance in solution that will de-
compose it; but as soon as we bring it
in contact with a [illegible]
[illegible]
[illegible]
[illegible]
acid, it will be changed. For instance
[illegible]
Results: [illegible] will [illegible]
[illegible] will [illegible]
[illegible]
[illegible]
[illegible]
[illegible] knowledge [illegible]
physician. [illegible]
many instances [illegible]
[illegible]
his medicines either inert or [illegible]
[illegible]
[illegible] by the ignorance or [illegible]
[illegible]

[illegible] dispensed, but [illegible]
[illegible] was [illegible]
[illegible] supposed [illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
are examples here, I will cite the treatment
[illegible]
Process [illegible] Now we know
[illegible]
[illegible] Pectoral, the Coraco-Brachialis
and the short head of the Biceps.
[illegible] of these by its action would
[illegible]
[illegible]
[illegible] downward. [illegible]
acting at the same time will [illegible]
[illegible]
[illegible] downward [illegible]
[illegible]

On the other hand, if the poison be a base and we know of an acid that will unite with it, so as to make it inert or harmless, the administration would act as an antidote. The foregoing is of course not the whole [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] ing [illegible] Ammonia and [illegible] [illegible] [illegible] [illegible] alkali we [illegible] an antidote among the acids. For this purpose we can use [illegible] [illegible] acid. Acetic or Citric or [illegible] Nitric Acid [illegible] requires a base to neutralize it; Magnesia with some albuminous substance will answer.

Antidotes act mechanically by inclosing the poison so as to prevent them from coming in contact with the walls of the stomach or intestines, and in this manner prevent their chemical action upon the tissues of those organs; as when we administer albuminous substances to prevent the corrosive action of poisons.

We know that there is

[illegible]
[illegible]
[illegible]
[illegible]
[illegible] the task will be comparatively easy, where otherwise it is impossible.

There are many phenomena in Nature which have up to this time resisted [illegible] explanation; but can we not suppose, [illegible] as Natural Science has been advancing, that many point, which are yet buried under hypotheses and theories, may yet be made perfectly intelligible to our [illegible].

As long as we have no hypotheses and theories, we are certainly doubtful; and only when the knowledge of positive facts will take their places, will the work be done.

Agideous Noel.